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Annual Report of Groundwater Monitoring at Centralia, Kansas, in 2013

Environmental Science Division



United States Department of Agriculture

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by

Applied Geosciences and Environmental Management Section
Environmental Science Division, Argonne National Laboratory

May 2014



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Notation

AGEM	Applied Geosciences and Environmental Management
AMSL	above mean sea level
BGL	below ground level
°C	degree(s) Celsius
CCC	Commodity Credit Corporation
CD	compact disc
COC	chain of custody
DO	dissolved oxygen
EPA	U.S. Environmental Protection Agency
ft	foot (feet)
IM	interim measure
in.	inch(es)
ISCR	<i>in situ</i> chemical reduction
KDHE	Kansas Department of Health and Environment
L	liter(s)
µg/L	microgram(s) per liter
µS/cm	microsiemen(s) per centimeter
mg/L	milligram(s) per liter
mV	millivolt(s)
ORP	oxidation-reduction potential
RBSL	risk-based screening level
USDA	U.S. Department of Agriculture
VOC	volatile organic compound
yr	year(s)

Annual Report of Groundwater Monitoring at Centralia, Kansas, in 2013

1 Introduction and Background

Periodic sampling is performed at Centralia, Kansas, on behalf of the Commodity Credit Corporation of the U.S. Department of Agriculture (CCC/USDA) by Argonne National Laboratory. The objective is to monitor levels of carbon tetrachloride contamination identified in the groundwater sitewide (Argonne 2003, 2004, 2005a), as well as the response to the interim measure (IM) pilot test (Argonne 2007b) that is in progress.

From September 2005 until September 2007, under an early monitoring plan (Argonne 2005b) approved by the Kansas Department of Health and Environment (KDHE 2005), groundwater was sampled twice yearly for analysis for volatile organic compounds (VOCs), as well as selected geochemical parameters to aid in the evaluation of possible natural contaminant degradation processes (reductive dechlorination) in the subsurface (Argonne 2006, 2007a, 2008a). The results of this sampling in 2005-2007 demonstrated the presence of carbon tetrachloride contamination, at levels exceeding the KDHE Tier 2 risk-based screening level (RBSL) of 5.0 µg/L for this compound, in a localized groundwater plume that has shown little movement. The relative concentrations of chloroform, the primary degradation product of carbon tetrachloride, suggested a degree of *in situ*, localized reductive dechlorination or natural biodegradation at the former CCC/USDA facility.

After the 2005-2007 monitoring under the early plan (Argonne 2005b), the CCC/USDA developed an *Interim Measure Conceptual Design* (Argonne 2007b), proposing a pilot test of the EHC® technology for *in situ* chemical reduction (ISCR) marketed by Adventus Americas, Inc. (currently available from PeroxyChem, LLC, Philadelphia, Pennsylvania). After approval of the proposed IM (KDHE 2007), implementation of the pilot test occurred in November-December 2007. The objective was to create highly reducing conditions that would enhance both chemical and biological reductive dechlorination in the injection test area (Argonne 2009a).

The KDHE (2008a) requested that sitewide monitoring continue until a final remedy is selected and implemented. In response to this request, the established sampling across the site and additional sampling in the IM pilot test area continued in 2008 (Argonne 2008b, 2009a,b).

On the basis of results of the 2005-2008 sitewide monitoring and the 2008 IM pilot test monitoring, the CCC/USDA recommended a revised sampling program for both the wider site and the IM pilot test area (Section 4.2 in Argonne 2009b). This revised plan was approved by the KDHE (2009). The elements of the sampling program in effect in 2009-2012 were (1) annual sampling of 12 monitoring points across the site (Figure 1.1) and 5 outlying IM pilot test monitoring points (PMP4, PMP5, PMP6, PMP7, PMP9; Figure 1.2) and (2) twice yearly sampling of 5 IM pilot test monitoring points in the injection area (PMP1-PMP3, PMP8, MW02; Figure 1.2).

Because the monitoring results in 2009-2011 (Argonne 2010, 2011, 2012) continued to indicate slow, predictable groundwater movement and contaminant migration sitewide — as well as a slow rate of change in contaminant concentrations, oxidation-reduction potential (ORP), and dissolved oxygen (DO) in the pilot test area — the CCC/USDA recommended a change to annual sampling at all monitoring locations (Argonne 2012). Monitoring in 2012 continued on the previous schedule involving twice yearly sampling at 5 IM pilot test monitoring points (Argonne 2013).

The KDHE (2012) agreed to annual sampling at all locations, to begin in 2013. This present report documents the results of the annual sampling of the approved monitoring well network on September 25-26, 2013.

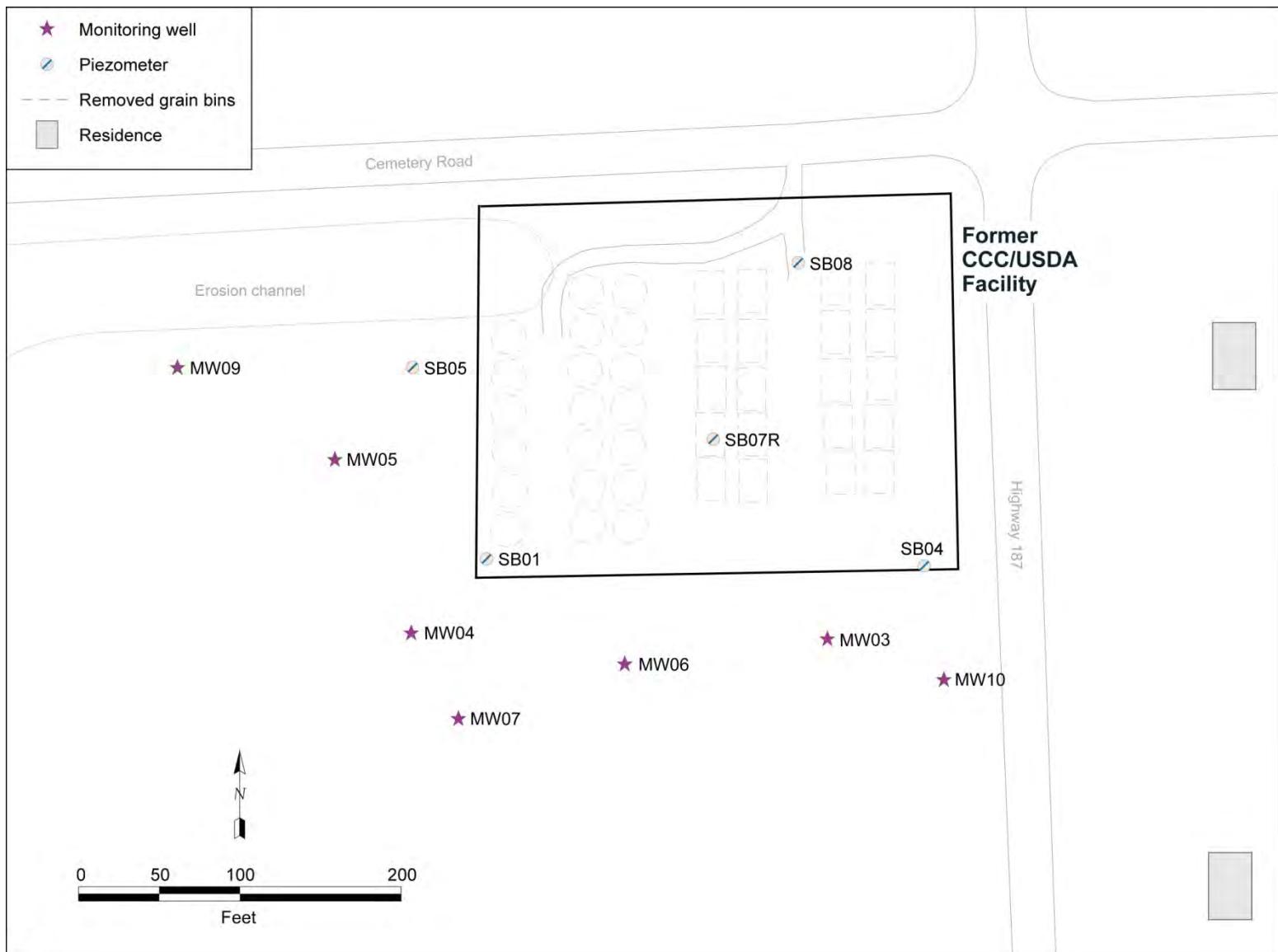


FIGURE 1.1 Currently approved sitewide monitoring network.

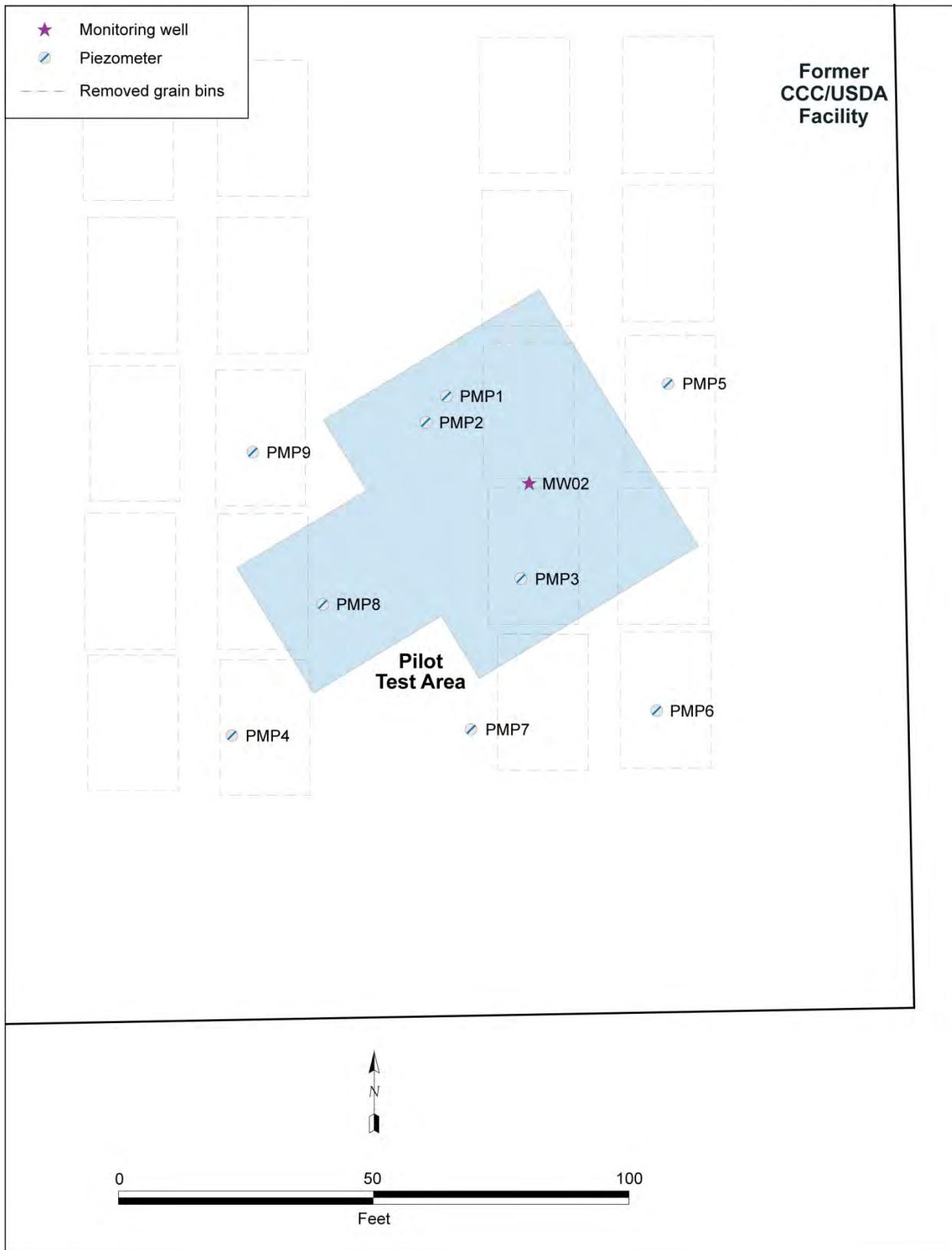


FIGURE 1.2 Currently approved pilot test monitoring points.

2 Sampling and Analysis Activities

2.1 Measurement of Groundwater Levels

Pilot test monitoring points PMP1-PMP3, PMP4-PMP9, and MW02 (Figure 1.2) and sitewide monitoring points MW03-MW07, MW09, MW10, SB01, SB04, SB05, SB07R, and SB08 (Figure 1.1) were sampled on September 25-26, 2013.

In conjunction with the September 2013 sampling event, a water level indicator was used to measure the depth to groundwater (prior to sampling) from the top of the well casing at each sampled IM monitoring point (Figure 1.2), as well as in all of the sitewide monitoring wells (Figure 1.1). The groundwater level data are presented and discussed in Section 3.1.

In October 2012, the flush mount of well PMP3 was found to have shifted enough to prevent groundwater sampling and water level measurement. At the request of the KDHE (2013), the well was repaired on June 20, 2013, so that it could be sampled on September 25, 2013. Removal of the flush mount pad and some excavation in June 2013 revealed a bend in the 0.5-in. casing pipe at roughly 1.5 ft BGL. After the bent piece of pipe was removed and replaced, the hole was backfilled, and the flush mount pad was replaced. The repair is summarized in Appendix A.

Automated measurement of the groundwater levels at Centralia was initiated in April 2002 and continued in selected wells until 2010 (Argonne 2011). The results of this program, in conjunction with periodic manual determinations of the water levels in all available monitoring points, demonstrated long-term consistency in both the groundwater levels and the interpreted patterns of groundwater flow across the investigation area. In light of these findings, automated measurement of the groundwater levels was terminated in 2010 (Argonne 2011).

2.2 Monitoring Well and Piezometer Sampling and Analysis

After manual measurement of water levels, each monitoring point was purged of a small volume by using a bladder pump or a Waterra pump. With the approval of the KDHE (2008b), the purging was performed by low-flow techniques, in accord with U.S. Environmental Protection Agency (EPA) procedure EPA/540/S-95/504 (Puls and Barcelona 1996) and the

equipment manufacturers' instructions. Field measurements of temperature, pH, conductivity, DO, and ORP were taken during purging until the measurements stabilized. Field measurements of iron(II) were made as outlined in the early monitoring plan (Argonne 2005b), in accord with procedures in the *Master Work Plan* (Argonne 2002). The sequence of activities during the September 2013 sampling event is summarized in Appendix B, Table B.1.

Groundwater samples designated for VOCs analysis were collected in appropriate laboratory containers, labeled, packaged, and chilled to 4°C by placement in ice-filled coolers. The samples were shipped overnight to the Applied Geosciences and Environmental Management (AGEM) Laboratory at Argonne for VOCs analysis by EPA Method 524.2 (EPA 1995). Aliquots of selected samples (chosen in the field) were also shipped to TestAmerica Laboratories, Inc., South Burlington, Vermont, for verification VOCs analysis.

The analytical results for groundwater samples are discussed in Section 3.2.

2.3 Handling and Disposal of Investigation-Derived Waste

Purge water generated as potentially contaminated investigation-derived waste was containerized on-site. The accumulated purge water was sampled on October 24, 2013 (along with wastewater from several other CCC/USDA sites in Kansas), and analyzed by Pace Analytical Services, Inc., Lenexa, Kansas, on October 30, 2013. Methods used were EPA Method 5030/8260 for VOCs, EPA Method 504.1 for ethylene dibromide, and EPA Method 353.2 for nitrate/nitrite nitrogen. Carbon tetrachloride was detected at 2.1 µg/L. Nitrate/nitrite nitrogen was present at 3.8 mg/L. Ethylene dibromide was not detected. The laboratory results are in Supplement 1, on the compact disc (CD) inside the back cover of this report. The water was delivered on December 4, 2013 (together with purge water from several other CCC/USDA investigation sites in Kansas), for disposal at the Sabetha publicly owned wastewater treatment plant.

2.4 Quality Control for Sample Collection, Handling, and Analysis

Quality assurance/quality control procedures followed during the September 2013 monitoring event are described in detail in the *Master Work Plan* (Argonne 2002). The results are summarized as follows:

- Sample collection and handling activities were monitored by the documentation of samples as they were collected and the use of chain-of-custody forms and custody seals to ensure sample integrity during handling and shipment.
- Samples designated for VOCs analysis were received with custody seals intact and at the appropriate preservation temperature. All samples were analyzed within the required holding times.
- Quality control samples collected to monitor sample handling activities (two equipment rinsates, one field blank, and two trip blanks; Table C.1 in Appendix C) and method blanks analyzed with the samples to monitor analytical methodologies were all free of carbon tetrachloride and chloroform contamination.
- Groundwater samples were analyzed for VOCs at the AGEM Laboratory with the purge-and-trap method on a gas chromatograph-mass spectrometer system (modified EPA Method 524.2 [EPA 1995]). Calibration checks with each sample delivery group were required to be within $\pm 20\%$ of the standard. Surrogate standard determinations performed on samples and blanks were within the specified range of 80-120% for all samples, in either the initial analysis or a successful reanalysis. Accuracy and precision of the analytical methodology were evident in the analysis of two replicate samples and duplicate analysis of three additional samples, with average relative percent difference values for carbon tetrachloride and chloroform of approximately 3% and 4%, respectively, between the initial analysis and the associated quality control analysis for detections above the method detection limit (Table C.1 in Appendix C). The groundwater analytical data from the AGEM Laboratory are acceptable for quantitative determination of contaminant distribution.
- In accordance with the quality control procedures defined in the *Master Work Plan* (Argonne 2002), the analyses of water samples at the AGEM Laboratory were verified by a second laboratory. Four groundwater samples collected during the September 2013 monitoring event (from MW03, MW07, MW10,

and PMP7) were submitted to TestAmerica for verification organic analysis according to EPA Contract Laboratory Program methodology (EPA Method SOM01.2 for trace volatiles). Documentation is in Supplement 2 (on CD). The results are summarized in Appendix C, Table C.2. The results from TestAmerica support the results from the AGEM Laboratory. The TestAmerica result for sample CNPMP7-W-35823VER is marked with the B qualifier in Table C.2, because a trace concentration of methylene chloride was detected in the associated blank.

3 Results and Discussion

3.1 Groundwater Level Data

Depths to groundwater were measured manually in the sitewide monitoring wells (Figure 1.1) and in the IM monitoring points sampled on September 25-26, 2013 (Figure 1.2). The hand-measured water level data are in Table 3.1. The potentiometric surface determined from the measurements on September 25-26, 2013, is depicted in Figure 3.1.

The 2013 potentiometric surface is consistent with previous interpretations (Argonne 2006, 2007a, 2008a,b, 2009b, 2010, 2011, 2012, 2013), indicating an apparent groundwater flow direction toward the southwest across much of the former CCC/USDA facility. Like previous depictions, Figure 3.1 indicates that groundwater flow appears focused toward a localized low in the potentiometric surface, defined by the water level measurements at SB01, MW04, MW06, and MW07. Argonne's early investigations (Argonne 2003, 2004) suggested that the increased hydraulic gradients observed near these wells are a reflection of relatively low-permeability silts and clays that compose the aquifer unit in this portion of the study area, in comparison to the coarser-grained deposits identified in the northern and eastern portions of the site. The results of the sitewide groundwater analyses discussed in Section 3.2.1 support an interpretation of slow groundwater flow (and carbon tetrachloride migration) to the south-southwest, in keeping with the observed water level patterns.

3.2 Groundwater Analysis Results

With the approval of the KDHE (2009, 2012), sitewide groundwater sampling in a suite of 12 monitoring points (Figure 1.1) and more detailed sampling in the IM pilot test area (Figure 1.2) occurred in September 2013. The results of the 2013 sitewide and IM pilot test area monitoring are summarized, respectively, in Section 3.2.1 and Section 3.2.2.

3.2.1 Sitewide Monitoring Results

The analytical data for VOCs in the groundwater samples collected in the network of sitewide monitoring wells in September 2013 are in Table 3.2, together with data generated since

sampling of the monitoring wells began in 2004. The September 2013 sitewide data for carbon tetrachloride are illustrated in Figure 3.2, along with the lateral margins of the contaminant distribution, as interpreted on the basis of the sitewide groundwater sampling events summarized in Table 3.2.

Carbon tetrachloride was detected in September 2013 at 10 of the 12 sitewide monitoring locations on and downgradient from the former CCC/USDA property (Figure 3.2), at levels ranging from an estimated concentration (0.6 µg/L) below the method detection limit at MW06 to a maximum of 153 µg/L at SB01. Chloroform concentrations ranging from an estimated value of 0.2 µg/L to 14 µg/L were detected at 9 of the 12 sampled locations (Table 3.2).

The carbon tetrachloride concentrations identified in the sitewide monitoring wells in 2013 were generally comparable to the measurements obtained in 2012. The results at SB05 (where concentrations had increased in 2004-2010) continued an apparent decreasing trend first observed in 2011, with values of 374 µg/L in 2010, 245 µg/L in 2011, 225 µg/L in 2012, and 141 µg/L in 2013. The carbon tetrachloride concentrations in 2013 at wells MW04 (4.1 µg/L) and MW07 (10 µg/L) continued to reflect slowly increasing trends (Table 3.2). Concentrations at MW03 and SB07R, which had also increased recently, stayed the same or decreased slightly in 2013. Overall, the values (Table 3.2 and Figure 3.2) since 2004 continue to be stable, with very slightly increasing carbon tetrachloride concentrations along the downgradient margins of the groundwater plume. These results are consistent with the interpretation (Section 3.1) of slow groundwater flow (and carbon tetrachloride migration) to the south-southwest.

The results of field measurements on the groundwater samples from wells in the sitewide monitoring network are summarized in Table 3.3. The presence of trace to relatively low levels of chloroform at most of the monitoring points having detectable levels of carbon tetrachloride (Table 3.2) suggests that some degradation of carbon tetrachloride is occurring at these locations. The relatively high DO concentrations (2.47-9.06 mg/L) and positive ORP levels (5 mV to 169 mV) identified at the sitewide monitoring points (Table 3.3) do not, however, support the widespread occurrence of anaerobic reducing conditions in the Centralia aquifer outside the treatment area.

Table 3.3 documents erratic fluctuations in DO concentrations and ORP levels at monitoring well MW06 since 2004. The low DO concentrations (< 1 mg/L) and negative ORP values (-96 mV and -72 mV, respectively) at MW06 in September 2008 and October 2009

(Table 3.3) were interpreted as possibly suggesting the transient development of increasingly anaerobic reducing conditions at this location (Section 3.2.1 in Argonne 2010); however, these results were not reproduced in 2010-2013.

3.2.2 Monitoring Results for the IM Pilot Test Area

Baseline groundwater sampling prior to injection of the ISCR materials was conducted in and adjacent to the IM pilot test area in September and November 2007 to provide a basis for assessment of the ISCR treatment technology over time. The pre-treatment concentrations of carbon tetrachloride and the values of DO and ORP identified during this sampling (Argonne 2009a) are illustrated in Figures 3.3-3.5, respectively.

Injection of the ISCR materials in November-December 2007 initially generated extremely reducing, oxygen-depleted groundwater conditions (conducive to the reductive dechlorination of carbon tetrachloride) in the injection field. Less dramatic reductions in DO and ORP were observed at monitoring points outside the treatment area. The extremely low DO and ORP levels were, however, maintained for only approximately 5-7 weeks after injection. Subsequent monitoring in 2008 (Argonne 2009a,b) demonstrated that the DO and ORP levels remained consistently lower in the injection field than outside that area, but the results showed no clear indication of geochemical effects outside the injection field.

Reductions of 96-99% in the concentrations of carbon tetrachloride in groundwater in the injection field and of 20-70% at most monitoring points near the injection area were observed in the first 5-7 weeks after injection. Continued monitoring in 2008 showed that carbon tetrachloride concentrations in the injection field generally remained near the initial post-injection levels or decreased slightly more, while the concentrations at points bordering or outside the injection area showed little consistency and variably decreased, increased, or remained relatively unchanged (Argonne 2009a) after the initial 5-7 weeks following the injection.

The analytical data for VOCs in the groundwater samples collected from the IM pilot test monitoring points (PMP1-PMP9 and MW02; Figure 1.2) in September 2013 are in Table 3.4, together with data collected at these locations since September 2008. The corresponding field measurements for these locations and sampling events are in Table 3.5. Time series diagrams

summarizing the complete sequence of analysis results for carbon tetrachloride, chloroform, methylene chloride, DO, and ORP at each IM monitoring point since ISCR pilot test implementation in November 2007 are in Appendix D, Figures D.1-D.10.

Carbon tetrachloride was detected at 9 of the 10 pilot test area locations sampled in September 2013. Carbon tetrachloride concentrations ranging from an estimated 0.4 µg/L (at MW02) to 602 µg/L (at PMP5) were detected at piezometers MW02, PMP1-PMP7, and PMP9 (Table 3.4). No carbon tetrachloride was detected at monitoring point PMP8 during the 2013 sampling event.

The comparison of analytical results for carbon tetrachloride in fall 2010, 2011, 2012, and 2013 in Figure 3.6 indicates some variability. The graphs in Figures D.1-D.10 in Appendix D illustrate the longer-term trends in carbon tetrachloride concentrations in 2008-2013 at the IM monitoring locations. The scales on the vertical axes vary among the graphs, reflecting higher and lower VOCs concentrations at the various monitoring points.

The recorded carbon tetrachloride concentrations at monitoring point PMP1, in the injection field, varied in 2008-2012 (Table 3.4 and Appendix D, Figure D.2) in a pattern suggesting a long-term decrease, with higher concentrations in the fall than in the spring. No indication of a seasonal influence in the carbon tetrachloride concentrations was identified at any other IM monitoring point, including immediately adjacent well PMP2 (Figure 3.6). Under the annual sampling schedule now approved, discussion of the seasonal variations suggested only at PMP1 will no longer be pursued.

The DO concentrations and ORP levels identified in the pilot test area in fall 2010, 2011, 2012, and 2013 are summarized in Table 3.5 and Figures 3.7 and 3.8, respectively. In general, lower (and predominantly negative) ORP values have persisted in the injection field relative to monitoring points outside this area. These observations demonstrate a continuing localized influence of the ISCR treatment. Similarly, DO concentrations have remained consistently lower, although somewhat more variable, in the injection field than at nearby locations outside this area (with the possible exception of PMP7; Table 3.5, Figure 3.7, and Figures D.1-D.10).

Additional evidence of the persistence of the ISCR material in the injection field has been the observation of gray color and unpleasant odor in some groundwater samples, though the number of affected samples and the intensity of the color and odor diminished after the initial

observations after injection (Argonne 2009a). Minor odor and color effects were noted in 2013 at PMP1-PMP4 and PMP6-PMP9 (Table B.1 in Appendix B).

Relatively high levels of chloroform ($\geq 10\%$ of the carbon tetrachloride concentrations; Table 3.4 and graphs in Appendix D) were observed at PMP1, PMP2, PMP4, and PMP7 in 2013. Methylene chloride (less than approximately 6% of the carbon tetrachloride concentrations) was detected at PMP1 and PMP7 at maximum values of $< 1 \mu\text{g/L}$ and $6.7 \mu\text{g/L}$, respectively. The level of methylene chloride in PMP7 exceeds the KDHE Tier 2 RBSL value of $5.0 \mu\text{g/L}$. Chloroform and methylene chloride are both breakdown products of carbon tetrachloride. Together, these findings indicate that geochemical conditions favorable to the reductive dechlorination of carbon tetrachloride persist in and (to an extent) downgradient of the pilot test area as a result of the November 2007 ISCR injections.

The monitoring data (Table 3.4 and graphs in Appendix D) indicate that DO values at PMP6 and PMP7 decreased soon after injection and have remained low. The ORP values at PMP4 have declined steadily, as have carbon tetrachloride concentrations. These observations suggest slow expansion of the range of influence of the ISCR treatment technology with time, in the direction of natural groundwater flow to the southwest.

TABLE 3.1 Groundwater levels measured manually during sampling events in 2013.

Well	Ground Surface Elevation ^a (ft AMSL)	September 25-26, 2013	
		Depth to Groundwater (ft BGL)	Groundwater Elevation (ft AMSL)
MW02	1335.23	23.85	1311.38
MW03	1334.81	23.25	1311.56
MW04	1322.94	26.78	1296.16
MW05	1318.55	13.75	1304.80
MW06	1329.96	38.00	1291.96
MW07	1325.34	30.96	1294.38
MW09	1310.91	6.85	1304.06
MW10	1334.95	23.90	1311.05
SB01	1325.57	21.60	1303.97
SB04	1336.06	24.60	1311.46
SB05	1321.51	14.15	1307.36
SB07R	1332.10	21.48	1310.62
SB08	1332.84	21.28	1311.56
PMP1	1334.40	23.35	1311.05
PMP2	1334.33	23.35	1310.98
PMP3	1335.26	23.90	1311.36
PMP4	1332.78	21.50	1311.28
PMP5	1335.81	24.45	1311.36
PMP6	1335.80	24.35	1311.45
PMP7	1334.76	23.35	1311.41
PMP8	1333.62	21.90	1311.72
PMP9	1332.63	22.00	1310.63

^a Locations surveyed in 2009.

TABLE 3.2 Analytical results from the AGEM Laboratory for volatile organic compounds in groundwater samples collected at the sitewide monitoring points, August 2004 to September 2013.

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration ($\mu\text{g/L}$)		
				Carbon Tetrachloride	Chloroform	Methylene Chloride
MW01 ^a	54.5-64.5	CNMW01-W-16158	8/24/04	ND ^b	ND	ND
		CNMW01-W-19276	9/10/05	ND	ND	ND
		CNMW01-W-16308	10/11/05	ND	ND	ND
		CNMW01-W-19890	3/15/06	ND	ND	ND
		CNMW01-W-22501	9/25/06	ND	ND	ND
		CNMW01-W-16326	3/29/07	ND	ND	ND
		CNMW01-W-16228	9/26/07	1.0 R ^c	ND	ND
		CNMW01-W-26023	3/19/08	ND	ND	ND
		CNMW01-W-26673	9/9/08	ND	ND	ND
MW02 ^d	49.5-59.5	CNMW02-W-16159	8/26/04	215	6.2	ND
		CNMW02-W-19282	9/11/05	776	33	ND
		CNMW02-W-16309	10/12/05	528	21	ND
		CNMW02-W-19908	3/16/06	847	21	ND
		CNMW02-W-22508	9/26/06	1,233	25	ND
		CNMW02-W-15489	3/26/07	829	14	ND
		CNMW02-W-16227	9/26/07	1,138	18	ND
MW03	50.5-60.5	CNMW03-W-16178	8/24/04	1.2	ND	ND
		CNMW03-W-19277	9/10/05	1.6	ND	ND
		CNMW03-W-16310	10/11/05	1.8	ND	ND
		CNMW03-W-19909	3/17/06	2.6	0.2 J ^e	ND
		CNMW03-W-22513	9/26/06	2.7	ND	ND
		CNMW03-W-15494	3/27/07	2.5	ND	ND
		CNMW03-W-16223	9/25/07	3.5	ND	ND
		CNMW03-W-26001	3/12/08	2.3	ND	ND
		CNMW03-W-26675	9/9/08	3.2	0.3 J	ND
		CNMW03-W-27151	10/6/09	6.2	ND	ND
		CNMW03-W-27188	9/19/10	7.5	0.3 J	ND
		CNMW03-W-27228	9/29/11	8.3	ND	ND
		CNMW03-W-27268	10/2/12	11	ND	ND
		CNMW03-W-35805	9/25/13	11	0.2 J	ND
MW04	37.5-47.5	CNMW04-W-16180	8/24/04	ND	ND	ND
		CNMW04-W-19280	9/11/05	0.9 J	ND	ND
		CNMW04-W-16311	10/11/05	0.8 J	ND	ND
		CNMW04-W-19891	3/15/06	1.3	ND	ND
		CNMW04-W-22506	9/25/06	1.4	0.1 J	ND
		CNMW04-W-16210	3/28/07	2.1	ND	ND
		CNMW04-W-16220	9/24/07	2.0	ND	ND
		CNMW04-W-26024	3/19/08	1.3	ND	ND
		CNMW04-W-26676	9/9/08	2.0	ND	ND
		CNMW04-W-27152	10/7/09	2.9	ND	ND
		CNMW04-W-27189	9/20/10	2.2	ND	ND
		CNMW04-W-27229	9/29/11	3.1	ND	ND
		CNMW04-W-27269	10/2/12	3.8	ND	ND
		CNMW04-W-35806	9/25/13	4.1	0.2 J	ND

TABLE 3.2 (Cont.)

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration ($\mu\text{g/L}$)		
				Carbon Tetrachloride	Chloroform	Methylene Chloride
MW05	34.5-44.5	CNMW05-W-16183	8/25/04	ND	ND	ND
		CNMW05-W-19279	9/10/05	1.9	ND	ND
		CNMW05-W-16312	10/11/05	1.5	ND	ND
		CNMW05-W-19976	3/15/06	1.3	ND	ND
		CNMW05-W-22505	9/25/06	1.3	ND	ND
		CNMW05-W-16213	3/28/07	0.5 J	ND	ND
		CNMW05-W-16218	9/24/07	1.2	ND	ND
		CNMW05-W-26025	3/19/08	1.9	ND	ND
		CNMW05-W-26677	9/10/08	13	0.7 J	ND
		CNMW05-W-27153	10/7/09	18	1.1	ND
		CNMW05-W-27190	9/20/10	22	1.4	ND
		CNMW05-W-27230	9/30/11	12	0.9 J	ND
		CNMW05-W-27270	10/2/12	14	1.0	ND
		CNMW05-W-35807	9/25/13	8.7	0.6 J	ND
MW06	46.5-56.5	CNMW06-W-16184	8/25/04	ND	ND	ND
		CNMW06-W-19278	9/10/05	ND	ND	ND
		CNMW06-W-16313	10/11/05	0.3 J	ND	ND
		CNMW06-W-19889	3/15/06	0.2 J	ND	ND
		CNMW06-W-22511	9/27/06	ND	ND	ND
		CNMW06-W-16208	3/27/07	ND	ND	ND
		CNMW06-W-16222	9/24/07	ND	ND	ND
		CNMW06-W-26026	3/19/08	ND	ND	ND
		CNMW06-W-26678	9/9/08	ND	ND	ND
		CNMW06-W-27154	10/6/09	ND	ND	ND
		CNMW06-W-27191	9/20/10	ND	ND	ND
		CNMW06-W-27231	9/30/11	ND	ND	ND
		CNMW06-W-27271	10/3/12	ND	ND	ND
		CNMW06-W-35808	9/25/13	0.6 J	ND	ND
MW07	45-55	CNMW07-W-19887	3/14/06	0.4 J	0.6 J	ND
		CNMW07-W-22512	9/26/06	1.1	ND	ND
		CNMW07-W-15492	3/26/07	1.8	ND	ND
		CNMW07-W-16221	9/24/07	2.4	ND	ND
		CNMW07-W-26027	3/19/08	3.0	ND	ND
		CNMW07-W-26679	9/9/08	4.0	0.2 J	ND
		CNMW07-W-27155	10/6/09	5.1	0.6 J	ND
		CNMW07-W-27192	9/20/10	6.6	0.3 J	ND
		CNMW07-W-27232	9/30/11	6.3	0.7 J	ND
		CNMW07-W-27272	10/2/12	9.0	ND	ND
		CNMW07-W-35809	9/25/13	10	0.6 J	ND
MW08 ^a	38-53	CNMW08-W-19284	3/14/06	ND	ND	ND
		CNMW08-W-22507	9/26/06	ND	ND	ND
		CNMW08-W-15493	3/27/07	ND	ND	ND
		CNMW08-W-16226	9/25/07	ND	ND	ND
		CNMW08-W-26028	3/20/08	ND	ND	ND
		CNMW08-W-26680	9/10/08	ND	ND	ND

TABLE 3.2 (Cont.)

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration ($\mu\text{g/L}$)		
				Carbon Tetrachloride	Chloroform	Methylene Chloride
MW09	25-35	CNMW09-W-19285	3/15/06	ND	ND	ND
		CNMW09-W-22504	9/25/06	ND	ND	ND
		CNMW09-W-16209	3/27/07	ND	ND	ND
		CNMW09-W-16219	9/24/07	ND	ND	ND
		CNMW09-W-26029	3/20/08	ND	ND	ND
		CNMW09-W-26681	9/10/08	ND	ND	ND
		CNMW09-W-27157	10/6/09	ND	ND	ND
		CNMW09-W-27194	9/19/10	ND	ND	ND
		CNMW09-W-27234	9/30/11	ND	ND	ND
		CNMW09-W-27273	10/2/12	ND	ND	ND
		CNMW09-W-35810	9/25/13	ND	0.3 J	ND
MW10	30-45	CNMW10-W-19886	3/14/06	ND	ND	ND
		CNMW10-W-22510	9/26/06	ND	ND	ND
		CNMW10-W-16215	3/28/07	ND	ND	ND
		CNMW10-W-16224	9/25/07	ND	ND	ND
		CNMW10-W-26030	3/20/08	ND	ND	ND
		CNMW10-W-26682	9/9/08	ND	ND	ND
		CNMW10-W-27158	10/6/09	ND	ND	ND
		CNMW10-W-27195	9/19/10	ND	ND	ND
		CNMW10-W-27235	9/30/11	ND	ND	ND
		CNMW10-W-27274	10/2/12	ND	ND	ND
		CNMW10-W-35811	9/25/13	ND	ND	ND
SB01	40-50	CNSB01-W-16188	8/26/04	186	6.5	ND
		CNSB01-W-19274	9/9/05	269	6.8	ND
		CNSB01-W-16314	10/12/05	288	6.6	ND
		CNSB01-W-19979	3/17/06	320	5.7	ND
		CNSB01-W-22516	9/27/06	267	6.3	ND
		CNSB01-W-15491	3/27/07	222	4.9	ND
		CNSB01-W-16232	9/27/07	283	4.6	ND
		CNSB01-W-26031	3/20/08	325	4.8	ND
		CNSB01-W-26683	9/10/08	378	4.1	ND
		CNSB01-W-27159	10/7/09	396	5.0	ND
		CNSB01-W-27196	9/20/10	319	4.7	ND
		CNSB01-W-27236	10/1/11	276	4.3	ND
		CNSB01-W-27275	10/2/12	277	ND	ND
		CNSB01-W-35812	9/26/13	153	2.3	ND
SB04	51-61	CNSB04-W-16189	8/26/04	30	ND	ND
		CNSB04-W-19273	9/9/05	47	0.6 J	ND
		CNSB04-W-16315	10/12/05	44	0.5 J	ND
		CNSB04-W-19906	3/16/06	51	0.5 J	0.4 J B ^f
		CNSB04-W-22503	9/25/06	54	0.7 J	ND
		CNSB04-W-16216	3/28/07	44	0.5 J	ND
		CNSB04-W-16230	9/26/07	36	0.4 J	ND
		CNSB04-W-26002	3/12/08	30	0.3 J	ND
		CNSB04-W-26684	9/9/08	15	0.3 J	ND
		CNSB04-W-27160	10/8/09	17	0.3 J	ND
		CNSB04-W-27197	9/20/10	17	0.3 J	ND
		CNSB04-W-27237	9/30/11	8.7	ND	ND
		CNSB04-W-27276	10/2/12	18	ND	ND
		CNSB04-W-35813	9/26/13	9.3	ND	ND

TABLE 3.2 (Cont.)

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration ($\mu\text{g/L}$)		
				Carbon Tetrachloride	Chloroform	Methylene Chloride
SB05	32-42	CNSB05-W-16190	8/26/04	59	5.5	ND
		CNSB05-W-19275	9/9/05	77	7.2	ND
		CNSB05-W-16323	10/12/05	54	5.5	ND
		CNSB05-W-19904	3/17/06	104	7.2	ND
		CNSB05-W-19940	9/27/06	139	12	ND
		CNSB05-W-16212	3/28/07	138	12	ND
		CNSB05-W-16233	9/26/07	221	16	ND
		CNSB05-W-26032	3/20/08	224	17	ND
		CNSB05-W-26685	9/9/08	256	20	ND
		CNSB05-W-27161	10/8/09	289	19	ND
		CNSB05-W-27198	9/21/10	374	32	ND
		CNSB05-W-27238	9/30/11	245	22	ND
		CNSB05-W-27277	10/3/12	225	19	ND
		CNSB05-W-35814	9/26/13	141	14	ND
SB07R	45-60	CNSB07R-W-19978	3/15/06	41	2.7	ND
		CNSB07R-W-19924	9/26/06	30	1.7	ND
		CNSB07R-W-15490	3/26/07	30	1.7	ND
		CNSB07R-W-16225	9/25/07	50	2.4	ND
		CNSB07R-W-26003	3/12/08	13	0.9 J	ND
		CNSB07R-W-26686	9/9/08	21	1.4	ND
		CNSB07R-W-27162	10/7/09	38	1.7	ND
		CNSB07R-W-27199	9/20/10	42	2.5	ND
		CNSB07R-W-27239	9/30/11	44	2.5	ND
		CNSB07R-W-27278	10/2/12	70	2.8	ND
		CNSB07R-W-35815	9/25/13	56	2.4	ND
SB08	52-62	CNSB08-W-16192	8/26/04	79	3.1	ND
		CNSB08-W-19272	9/8/05	80	2.6	ND
		CNSB08-W-16317	10/12/05	77	2.8	ND
		CNSB08-W-19903	3/17/06	91	2.7	ND
		CNSB08-W-22500	9/21/06	53	1.6	ND
		CNSB08-W-16214	3/28/07	64	2.0	ND
		CNSB08-W-16229	9/26/07	68	1.8	ND
		CNSB08-W-26004	3/12/08	28	1.1	ND
		CNSB08-W-26687	9/8/08	22	1.2	ND
		CNSB08-W-27163	10/8/09	29	1.2	ND
		CNSB08-W-27200	9/20/10	16	0.9 J	ND
		CNSB08-W-27240	10/1/11	13	1.0	ND
		CNSB08-W-27279	10/2/12	20	1.2	ND
		CNSB08-W-35816	9/26/13	20	1.4	ND
SB09 ^a	32-42	CNSB09-W-16193	8/26/04	ND	ND	ND
		CNSB09-W-19281	9/11/05	ND	ND	ND
		CNSB09-W-16318	10/11/05	ND	ND	ND
		CNSB09-W-19902	3/17/06	ND	ND	ND
		CNSB09-W-22502	9/25/06	ND	ND	ND
		CNSB09-W-16211	3/28/07	ND	ND	ND
		CNSB09-W-16231	9/26/07	ND	ND	ND
		CNSB09-W-26033	3/20/08	ND	ND	ND
		CNSB09-W-26688	9/10/08	ND	ND	ND

TABLE 3.2 (Cont.)

-
- a No sampling at locations MW01, MW08, and SB09 after September 2008.
 - b ND, compound analyzed for but not detected at a level greater than or equal to the method detection limit (< 1 µg/L).
 - c R, contaminant present in the associated equipment rinsate.
 - d Data for samples collected at MW02 prior to implementation of the IM ISCR pilot test in November 2007. More recent results are in Table 3.4.
 - e J, compound identified with an estimated concentration between the instrument detection limit and the method detection limit.
 - f B, contaminant present in the associated method blank.

TABLE 3.3 Field measurements for groundwater samples collected at the sitewide monitoring points, August 2004 to September 2013.

Well	Screen Interval (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Concentrations (mg/L)			
						Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
MW01 ^a	54.5-64.5	8/24/04	16.3	7.39	652	0.06	25	0.00	230
		9/10/05	16.3	7.26	599	6.31	— ^b	0.00	104
		10/11/05	16.4	6.45	634	—	—	—	—
		3/15/06	14.3	7.56	621	9.33	30	0.04	297
		9/25/06	13.3	7.01	782	6.82	50	0.31	92
		3/29/07	16.5	6.54	629	4.39	—	0.00	174
		9/26/07	17.8	7.06	630	0.89	35	0.09	146
		3/19/08	9.5	7.31	613	3.34	—	—	122
		9/9/08	13.9	7.28	595	5.18	20	0.03	28
MW02 ^c	49.5-59.5	8/26/04	14.4	7.31	729	0.16	20	0.12	235
		9/11/05	15.3	7.02	739	1.28	—	—	—
		10/12/05	14.8	6.60	766	—	—	—	—
		3/16/06	14.2	6.78	759	1.24	—	0.00	295
		9/26/06	13.2	6.98	957	3.05	40	0.06	67
		3/26/07	15.7	6.39	739	2.29	50	—	67
		9/26/07	15.4	7.04	763	3.39	25	0.00	156
MW03	50.5-60.5	8/24/04	13.1	7.28	783	0.10	55	0.21	230
		9/10/05	15.1	7.05	715	10.42	65	0.00	142
		10/11/05	16.3	6.46	765	—	—	—	—
		3/17/06	13.8	6.75	753	9.39	77	0.00	290
		9/26/06	13.2	6.92	960	11.57	45	0.08	251
		3/27/07	15.3	6.40	774	7.73	25	—	268
		9/25/07	14.3	6.97	738	8.44	30	0.00	162
		3/12/08	14.6	7.12	777	7.90	—	3.13	88
		9/9/08	14.9	7.13	763	9.60	110	0.12	66
		10/6/09	13.8	7.08	770	9.66	95	0.03	216
		9/19/10	14.7	6.98	762	10.48	—	0.08	178
		9/29/11	15.2	7.61	647	10.19	—	0.00	243
		10/2/12	13.0	7.44	632	10.36	—	0.00	44
		9/25/13	15.7	6.90	671	8.90	—	0.00	169
MW04	37.5-47.5	8/24/04	16.2	7.39	717	0.11	40	0.04	210
		9/11/05	15.4	7.18	665	8.43	60	0.00	226
		10/11/05	14.4	7.14	811	—	—	—	—
		3/15/06	13.5	7.78	675	6.82	55	0.06	283
		9/25/06	—	7.02	613	9.13	40	0.19	46
		3/28/07	15.4	6.47	678	5.46	—	0.00	197
		9/24/07	17.4	7.10	667	6.94	35	0.24	261
		3/19/08	11.2	7.32	636	7.55	—	—	164
		9/9/08	14.2	7.14	648	8.68	100	0.00	72
		10/7/09	13.9	7.17	671	8.64	100	0.02	183
		9/20/10	16.2	7.18	572	8.91	—	0.10	164
		9/29/11	15.8	7.57	566	7.66	—	0.09	242
		10/2/12	15.1	6.70	550	8.36	—	0.04	282
		9/25/13	15.8	7.13	586	7.99	—	0.02	125

TABLE 3.3 (Cont.)

Well	Screen Interval (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Concentrations (mg/L)			
						Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
MW05	34.5-44.5	8/25/04	14.3	7.14	613	0.08	25	0.06	215
		9/10/05	14.2	6.80	620	1.40	110	0.00	160
		10/11/05	14.8	6.35	610	—	—	—	—
		3/15/06	14.3	6.90	701	0.90	30	0.06	156
		9/25/06	13.6	6.95	768	0.09	50	0.02	55
		3/28/07	14.4	6.44	573	4.53	35	0.00	295
		9/24/07	15.8	7.06	368	3.09	45	0.00	182
		3/19/08	12.9	7.42	642	5.42	—	—	177
		9/10/08	13.9	7.11	663	7.14	95	0.00	130
		10/7/09	14.2	7.11	672	7.05	90	0.00	194
		9/20/10	17.2	7.18	675	6.07	—	0.01	183
		9/30/11	14.4	7.71	540	6.50	—	0.03	163
		10/2/12	15.5	6.70	545	7.21	—	0.03	269
		9/25/13	16.1	7.10	562	6.92	—	0.00	125
MW06	46.5-56.5	8/25/04	15.9	7.50	637	0.05	15	0.00	215
		9/10/05	14.6	7.23	659	0.04	60	0.00	41
		10/11/05	15.8	6.99	638	—	—	—	—
		3/15/06	14.1	7.38	630	9.87	35	0.02	263
		9/27/06	13.1	6.16	652	0.05	45	1.12	63
		3/27/07	19.0	6.42	466	0.11	20	0.00	13
		9/24/07	16.8	7.11	463	8.00	25	0.41	191
		3/19/08	14.1	7.01	552	7.00	—	—	172
		9/9/08	14.4	7.20	437	0.36	105	0.07	-96
		10/6/09	13.5	6.69	255	0.61	110	0.06	-72
		9/20/10	15.6	6.97	369	2.48	—	0.04	86
		9/30/11	14.8	7.55	411	5.49	—	0.04	172
		10/3/12	15.3	6.68	404	5.65	—	0.00	287
		9/25/13	15.5	7.03	465	5.27	—	0.00	92
MW07	45-55	3/14/06	14.7	6.61	709	0.34	—	0.03	143
		9/26/06	13.1	7.23	642	2.91	50	0.00	—
		3/26/07	15.8	6.50	642	1.87	30	0.00	261
		9/24/07	19.0	7.18	609	9.05	60	0.18	190
		3/19/08	12.5	7.29	647	2.70	—	—	215
		9/9/08	15.6	7.10	629	1.41	68	0.00	16
		10/6/09	13.9	7.19	618	1.42	70	0.00	53
		9/20/10	16.6	7.22	622	2.93	—	0.00	132
		9/30/11	16.3	7.57	545	3.11	—	0.01	132
		10/2/12	15.0	6.77	514	2.07	—	0.00	84
		9/25/13	16.3	7.14	551	2.51	—	0.00	5
MW08 ^a	38-53	3/14/06	13.5	6.35	854	5.32	—	0.00	145
		9/26/06	13.3	6.75	1095	0.16	50	0.18	37
		3/27/07	15.8	6.31	874	1.49	30	0.21	237
		9/25/07	15.8	6.92	627	1.42	45	0.14	219
		3/20/08	13.5	7.19	869	2.11	—	—	185
		9/10/08	16.3	7.03	864	1.17	100	0.03	117

TABLE 3.3 (Cont.)

Well	Screen Interval (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Concentrations (mg/L)			
						Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
MW09	25-35	3/15/06	17.7	7.33	664	0.95	55	0.09	214
		9/25/06	12.8	6.87	859	1.59	45	0.18	90
		3/27/07	14.9	6.35	689	4.10	30	0.69	152
		9/24/07	16.6	6.94	1999	3.86	55	0.14	186
		3/20/08	13.5	7.17	720	4.70	—	—	173
		9/10/08	14.7	7.02	706	3.68	110	0.07	120
		10/6/09	13.2	7.00	715	3.73	110	0.08	148
		9/19/10	14.6	6.99	711	3.60	—	0.09	159
		9/30/11	15.4	7.40	609	3.49	—	0.08	182
		10/2/12	13.3	6.59	569	3.85	—	0.00	328
		9/25/13	16.3	6.99	629	3.46	—	0.11	88
MW10	30-45	3/14/06	14.8	6.60	834	6.42	65	0.00	166
		9/26/06	13.6	6.87	1058	6.94	50	0.50	51
		3/28/07	17.0	6.36	834	5.09	35	0.00	270
		9/25/07	15.8	6.94	827	6.64	35	0.21	199
		3/20/08	10.9	7.18	898	6.12	—	—	187
		9/9/08	14.8	7.05	879	7.18	100	0.06	94
		10/6/09	13.7	7.04	883	6.67	95	0.08	201
		9/19/10	15.1	6.95	882	6.76	—	0.00	186
		9/30/11	15.6	7.46	759	6.03	—	0.07	193
		10/2/12	14.2	7.37	746	6.46	—	0.03	52
		9/25/13	15.9	7.04	766	6.79	—	0.06	132
SB01	40-50	8/26/04	26.0	7.46	699	5.21	30	0.00	210
		9/9/05	25.0	7.11	674	6.25	95	0.00	140
		10/12/05	13.8	7.23	686	—	—	—	—
		3/17/06	12.4	7.30	692	5.98	55	0.00	185
		9/27/06	14.4	7.03	832	6.54	40	0.52	198
		3/27/07	18.0	6.37	659	3.81	25	0.23	173
		9/27/07	13.5	7.24	720	6.55	45	1.04	143
		3/20/08	15.6	7.29	783	8.02	—	—	182
		9/10/08	16.5	7.10	676	2.89	100	0.17	100
		10/7/09	14.8	7.11	761	7.69	105	0.07	215
		9/20/10	17.1	7.24	679	7.10	—	0.00	163
		10/1/11	18.7	7.51	632	10.45	—	0.07	207
		10/2/12	17.4	7.45	596	5.68	—	0.01	35
		9/26/13	18.6	7.24	550	9.06	—	0.14	159
SB04	51-61	8/26/04	17.9	7.14	765	3.78	55	0.37	230
		9/9/05	16.0	7.09	708	8.67	100	—	206
		10/12/05	13.9	7.17	813	—	—	—	—
		3/16/06	13.0	7.57	799	5.96	30	—	276
		9/25/06	14.9	7.16	791	9.32	70	1.18	64
		3/28/07	16.2	6.45	850	6.18	—	0.23	266
		9/26/07	19.8	7.03	760	6.61	30	0.00	202
		3/12/08	15.5	7.04	819	6.16	—	0.09	154
		9/9/08	16.5	7.11	802	6.48	100	0.02	70
		10/8/09	12.2	7.11	797	7.43	95	0.09	238
		9/20/10	22.3	7.04	806	6.98	—	0.06	143
		9/30/11	16.1	7.06	663	7.33	—	0.00	158
		10/2/12	18.1	7.35	766	7.68	—	0.00	58
		9/26/13	19.0	7.09	725	7.00	—	0.00	152

TABLE 3.3 (Cont.)

Well	Screen Interval (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Concentrations (mg/L)			
						Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
SB05	32-42	8/26/04	15.7	7.25	761	—	25	0.06	220
		9/9/05	16.9	6.98	687	7.58	100	—	—
		10/12/05	14.0	7.00	728	—	—	—	—
		3/17/06	13.3	7.67	718	4.80	40	0.18	253
		9/27/06	13.7	6.58	763	4.70	50	0.25	78
		3/28/07	16.7	4.03	1100	2.58	35	0.07	296
		9/26/07	15.1	6.98	810	4.10	30	0.50	221
		3/20/08	14.5	7.11	870	5.56	—	—	206
		9/9/08	13.7	6.79	890	7.60	90	0.09	56
		10/8/09	12.7	7.09	874	6.63	100	0.08	209
		9/21/10	14.4	7.18	862	7.69	—	0.54	60
		9/30/11	13.2	7.28	652	4.87	—	0.00	86
		10/3/12	14.3	7.29	699	5.52	—	0.28	41
		9/26/13	14.2	6.54	500	5.91	—	0.48	60
SB07R	45-60	3/15/06	16.8	7.24	685	7.41	60	0.08	83
		9/26/06	13.2	6.89	842	6.17	55	0.26	67
		3/26/07	19.0	6.38	668	5.08	40	0.07	237
		9/25/07	17.4	7.06	642	6.30	35	0.11	170
		3/12/08	17.3	7.18	639	5.33	—	0.00	108
		9/9/08	14.1	7.06	631	5.08	100	0.07	55
		10/7/09	13.3	7.11	629	6.67	110	0.10	224
		9/20/10	15.5	7.04	648	5.87	—	0.13	161
		9/30/11	15.5	7.44	556	5.80	—	0.00	189
		10/2/12	14.7	7.34	557	6.41	—	0.03	35
		9/25/13	14.5	6.83	562	6.44	—	0.02	162
SB08	52-62	8/26/04	19.5	7.31	635	0.16	20	0.53	235
		9/8/05	21.2	7.27	598	3.21	75	0.00	111
		10/12/05	13.9	7.15	630	—	—	—	—
		3/17/06	12.9	7.14	645	3.40	40	0.00	246
		9/21/06	14.1	6.96	809	4.53	40	0.00	37
		3/28/07	15.8	6.53	645	3.57	35	0.24	208
		9/26/07	17.4	7.11	617	4.56	40	0.77	156
		3/12/08	17.1	7.17	642	3.63	—	0.14	102
		9/8/08	13.6	7.14	626	2.70	90	0.00	230
		10/8/09	12.3	7.22	617	4.43	95	0.00	221
		9/20/10	15.2	7.12	616	3.73	—	0.05	166
		10/1/11	15.4	7.90	492	3.35	—	0.01	76
		10/2/12	17.4	7.36	540	4.35	—	0.04	30
		9/26/13	20.5	7.22	521	2.47	—	0.00	61
SB09 ^a	32-42	8/26/04	30.9	7.09	910	0.26	75	0.00	185
		9/11/05	14.6	6.71	877	0.13	225	0.00	—
		10/11/05	13.9	6.85	910	—	—	—	—
		3/17/06	11.7	7.03	969	1.53	99	0.00	206
		9/25/06	14.2	7.00	976	0.29	70	0.38	86
		3/28/07	14.3	6.32	957	0.89	40	0.09	236
		9/26/07	15.2	6.77	969	1.53	45	0.12	199
		3/20/08	10.1	6.94	1000	1.57	—	—	221
		9/10/08	18.4	6.87	977	0.56	160	0.11	109

TABLE 3.3 (Cont.)

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- a No sampling at locations MW01, MW08, and SB09 after September 2008.
 - b No measurement.
 - c Data for samples collected at MW02 prior to implementation of the IM ISCR pilot test in November 2007. More recent results are in Table 3.5.

TABLE 3.4 Analytical results from the AGEM Laboratory for volatile organic compounds in groundwater samples collected at the IM pilot test monitoring points, September 2008 to September 2013.

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration ($\mu\text{g/L}$)		
				Carbon Tetrachloride	Chloroform	Methylene Chloride
MW02 ^a	49.5-59.5	CNMW02-W-26674	9/8/08	18	57	11
		CNMW02-W-27140	4/22/09	ND ^b	ND	1.8
		CNMW02-W-27150	10/8/09	ND	ND	ND
		CNMW02-W-27179	4/5/10	ND	ND	ND
		CNMW02-W-27187	9/20/10	1.7	ND	ND
		CNMW02-W-27218	4/19/11	ND	ND	ND
		CNMW02-W-27227	9/29/11	ND	ND	ND
		CNMW02-W-27258	3/27/12	ND	ND	ND
		CNMW02-W-27267	10/2/12	ND	ND	ND
		CNMW02-W-35804	9/26/13	0.4 J ^c	ND	ND
PMP1	50-60	CNPMP1-W-26689	9/9/08	136	30	ND
		CNPMP1-W-27141	4/22/09	102	21	_d
		CNPMP1-W-27165	10/7/09	167	20	ND
		CNPMP1-W-27180	4/5/10	91	15	ND
		CNPMP1-W-27202	9/21/10	103	11	ND
		CNPMP1-W-27219	4/19/11	63	8.4	ND
		CNPMP1-W-27242	9/29/11	134	13	ND
		CNPMP1-W-27259	3/27/12	15	1.7	ND
		CNPMP1-W-27280	10/1/12	64	9.2	ND
		CNPMP1-W-35817	9/26/13	65	8.1	0.5 J
PMP2	50-60	CNPMP2-W-26690	9/9/08	1,854	318	5.6
		CNPMP2-W-27142	4/22/09	1,398	299	—
		CNPMP2-W-27166	10/7/09	1,384	272	6.6
		CNPMP2-W-27181	4/5/10	991	182	5.1
		CNPMP2-W-27203	9/21/10	117	55	2.3
		CNPMP2-W-27220	4/19/11	317	59	—
		CNPMP2-W-27243	9/29/11	277	45	1.1
		CNPMP2-W-27260	3/27/12	166	30	0.6 J
		CNPMP2-W-27281	10/1/12	188	33	ND
		CNPMP2-W-35818	9/26/13	41	12	ND
PMP3	50-60	CNPMP3-W-26691	9/9/08	21	57	6.2
		CNPMP3-W-27143	4/22/09	3.2	5.8	ND
		CNPMP3-W-27167	10/7/09	0.5 J	3.9	ND
		CNPMP3-W-27182	4/5/10	ND	ND	ND
		CNPMP3-W-27204	9/21/10	ND	ND	ND
		CNPMP3-W-27221	4/19/11	0.1 J	ND	ND
		CNPMP3-W-27244	9/29/11	ND	ND	ND
		CNPMP3-W-27261	3/27/12	ND	ND	ND
PMP4	48.75-58.75	CNPMP4-W-26692	9/9/08	49	4.2	ND
		CNPMP4-W-27168	10/6/09	39	2.9	ND
		CNPMP4-W-27205	9/21/10	28	1.8	ND
		CNPMP4-W-27245	9/29/11	27	1.4	ND
		CNPMP4-W-27283	10/1/12	40	2.4	ND
		CNPMP4-W-35820	9/25/13	7.2	1.1	ND

TABLE 3.4 (Cont.)

Well	Screen Interval (ft BGL)	Sample	Sample Date	Concentration ($\mu\text{g/L}$)		
				Carbon Tetrachloride	Chloroform	Methylene Chloride
PMP5	50-60	CNPMP5-W-26693	9/10/08	418	46	1.6
		CNPMP5-W-27169	10/8/09	728	43	1.2
		CNPMP5-W-27206	9/20/10	779	35	0.9 J
		CNPMP5-W-27246	10/1/11	600	27	—
		CNPMP5-W-27284	10/3/12	696	27	ND
		CNPMP5-W-35821	9/25/13	602	27	ND
PMP6	50-60	CNPMP6-W-26694	9/8/08	110	7.8	ND
		CNPMP6-W-27170	10/6/09	199	12	ND
		CNPMP6-W-27207	9/21/10	143	9.6	ND
		CNPMP6-W-27247	9/29/11	152	9.9	ND
		CNPMP6-W-27285	10/1/12	243	13	ND
		CNPMP6-W-35822	9/25/13	171	11	ND
PMP7	50-60	CNPMP7-W-26695	9/9/08	119	13	ND
		CNPMP7-W-27171	10/6/09	84	23	1.8
		CNPMP7-W-27208	9/21/10	98	37	4.0
		CNPMP7-W-27248	9/29/11	103	41	5.8
		CNPMP7-W-27286	10/1/12	220	102	12
		CNPMP7-W-35823	9/25/13	106	61	6.7
PMP8	50-60	CNPMP8-W-26696	9/9/08	72	125	3.4
		CNPMP8-W-27144	4/22/09	3.2	5.6	1.9
		CNPMP8-W-27172	10/7/09	16	21	1.8
		CNPMP8-W-27183	4/5/10	0.4 J	0.7 J	ND
		CNPMP8-W-27209	9/21/10	0.7 J	ND	ND
		CNPMP8-W-27222	4/19/11	ND	ND	ND
		CNPMP8-W-27249	9/29/11	ND	ND	ND
		CNPMP8-W-27262	3/27/12	ND	ND	ND
		CNPMP8-W-27287	10/2/12	ND	ND	ND
		CNPMP8-W-35824	9/25/13	ND	ND	ND
		CNPMP9-W-26697	9/9/08	7.6	0.4 J	ND
PMP9	50-60	CNPMP9-W-27173	10/7/09	29	0.5 J	ND
		CNPMP9-W-27210	9/21/10	24	0.2 J	ND
		CNPMP9-W-27250	9/29/11	28	ND	ND
		CNPMP9-W-27288	10/2/12	30	ND	ND
		CNPMP9-W-35825	9/25/13	26	0.2 J	ND

^a Data for samples collected after implementation of the IM ISCR pilot test in November 2007. Earlier data are in Table 3.2.

^b ND, compound analyzed for but not detected at a level greater than or equal to the method detection limit (< 1 $\mu\text{g/L}$).

^c J, compound identified with an estimated concentration between the instrument detection limit and the method detection limit.

^d No analysis.

TABLE 3.5 Field measurements for groundwater samples collected at the IM pilot test monitoring points, September 2008 to September 2013.

Well	Screen Interval (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Concentration (mg/L)			
						Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
MW02 ^a	49.5-59.5	9/8/08	13.1	6.12	6,821	0.40	50	3.30 ^b	-74
		4/22/09	14.8	6.71	2,943	0.60	110	2.70	-131
		10/8/09	12.7	6.98	1,829	0.44	50	3.06	-138
		4/5/10	15.0	8.79	1,675	0.08	115	2.36	-72
		9/20/10	15.7	6.98	1,608	0.01	—	3.30 ^b	-139
		4/19/11	11.4	7.16	1,004	0.56	—	2.23	-143
		9/29/11	15.6	7.63	770	0.46	—	1.07	-128
		3/27/12	14.7	6.74	946	0.46	—	1.20	-120
		10/2/12	14.8	7.44	865	0.15	—	0.94	-231
		9/26/13	17.3	7.15	866	0.14	—	1.57	-158
PMP1	50-60	9/9/08	14.4	5.54	700	1.37	115	0.23	40
		4/22/09	15.1	6.97	667	3.62	115	0.60	-79
		10/7/09	13.8	7.30	623	0.56	110	0.33	-34
		4/5/10	15.0	7.13	545	0.24	110	0.00	53
		9/21/10	15.8	6.83	617	0.53	—	0.67	34
		4/19/11	11.6	7.18	444	0.49	—	0.24	-83
		3/27/12	14.1	7.16	447	0.09	—	0.28	-188
		10/1/12	15.3	7.31	474	0.46	—	0.12	-152
		9/26/13	16.4	7.11	491	0.25	—	1.14	-116
		9/9/08	14.4	7.09	997	0.05	180	1.68	-41
PMP2	50-60	4/22/09	15.0	6.91	829	3.57	150	1.36	-101
		10/7/09	13.9	7.65	775	0.19	160	1.53	-89
		4/5/10	13.6	7.05	667	0.22	140	1.87	-93
		9/21/10	15.8	6.82	747	0.21	—	3.06	-90
		4/19/11	11.5	7.12	514	0.09	—	1.51	-158
		9/29/11	13.6	7.81	531	0.14	—	0.14	-140
		3/27/12	14.1	7.42	534	0.06	—	0.02	-211
		10/1/12	14.7	7.32	555	0.64	—	0.27	-170
		9/26/13	16.9	7.26	561	0.63	—	1.64	-144
		9/9/08	14.5	6.98	1,301	0.03	150	3.30 ^b	-150
PMP3	50-60	4/22/09	14.3	7.13	506	2.64	130	2.51	-114
		10/7/09	14.0	8.06	472	0.17	140	0.37	-129
		4/5/10	13.3	7.59	433	0.16	140	0.24	-175
		9/21/10	16.1	7.28	492	2.02	—	1.18	-138
		4/19/11	11.6	7.50	362	0.03	—	0.42	-203
		3/27/12	13.9	7.91	413	0.01	—	0.51	-238
		9/25/13	14.6	7.52	479	0.16	—	0.37	-190
		9/9/08	14.3	4.97	738	4.87	100	0.49	134
PMP4	48.75-58.75	10/6/09	13.2	6.46	705	2.20	110	0.08	43
		9/21/10	15.5	7.15	747	5.66	—	0.25	36
		9/29/11	13.6	7.79	553	4.12	—	0.01	25
		10/1/12	14.5	7.29	597	3.49	—	0.01	-7
		9/25/13	15.1	7.30	386	0.22	—	0.10	-25

TABLE 3.5 (Cont.)

Well	Screen Interval (ft BGL)	Sample Date	Temperature (°C)	pH	Conductivity (µS/cm)	Concentration (mg/L)			
						Dissolved Oxygen	Carbon Dioxide	Iron(II)	ORP (mV)
PMP5	50-60	9/10/08	16.9	7.20	875	2.51	105	0.18	117
		10/8/09	10.7	7.10	839	3.18	100	0.00	43
		9/20/10	20.0	7.05	904	3.35	—	0.12	92
		10/1/11	15.9	7.87	742	3.64	—	0.06	76
		10/3/12	17.7	7.45	847	3.53	—	0.16	33
		9/25/13	25.9	7.13	826	3.19	—	0.12	94
PMP6	50-60	9/8/08	13.2	6.87	787	3.32	75	0.09	173
		10/6/09	13.5	6.80	692	2.30	80	0.07	159
		9/21/10	15.5	7.22	777	1.90	—	0.59	91
		9/29/11	14.2	7.54	607	0.37	—	0.08	147
		10/1/12	14.7	7.29	670	0.44	—	0.04	-20
		9/25/13	14.7	7.04	684	0.53	—	0.04	116
PMP7	50-60	9/9/08	14.2	6.30	807	2.18	70	0.18	15
		10/6/09	13.4	6.74	655	0.46	70	0.12	-13
		9/21/10	15.2	7.23	664	0.20	—	0.07	-38
		9/29/11	13.9	7.93	509	0.08	—	0.14	-32
		10/1/12	14.0	7.40	553	0.24	—	0.04	-106
		9/25/13	15.7	7.22	563	0.27	—	0.02	14
PMP8	50-60	9/9/08	14.4	7.05	1,388	0.03	60	2.72	-129
		4/22/09	15.2	7.30	776	1.74	150	2.03	-139
		10/7/09	13.9	7.69	688	0.81	120	0.27	-155
		4/5/10	13.3	7.46	555	0.19	145	0.92	-156
		9/21/10	14.8	7.44	592	2.00	—	1.66	-138
		4/19/11	11.0	7.47	416	2.01	—	0.00	-157
		3/27/12	14.0	7.69	459	0.01	—	0.24	-214
		10/2/12	15.8	7.56	502	0.07	—	0.62	-220
		9/25/13	15.2	7.45	493	0.14	—	0.78	-162
PMP9	50-60	9/9/08	14.0	6.36	606	7.78	120	0.10	45
		10/7/09	13.7	7.50	568	5.82	125	0.06	-1
		9/21/10	15.2	7.26	605	6.67	—	0.15	44
		9/29/11	13.4	7.80	459	6.75	—	0.05	-12
		10/2/12	14.0	7.32	507	7.18	—	0.07	-18
		9/25/13	14.2	7.07	533	7.40	—	0.10	27

^a Data for samples collected after implementation of the IM ISCR pilot test in November 2007. Earlier results are in Table 3.3.

^b Maximum reading from instrument.

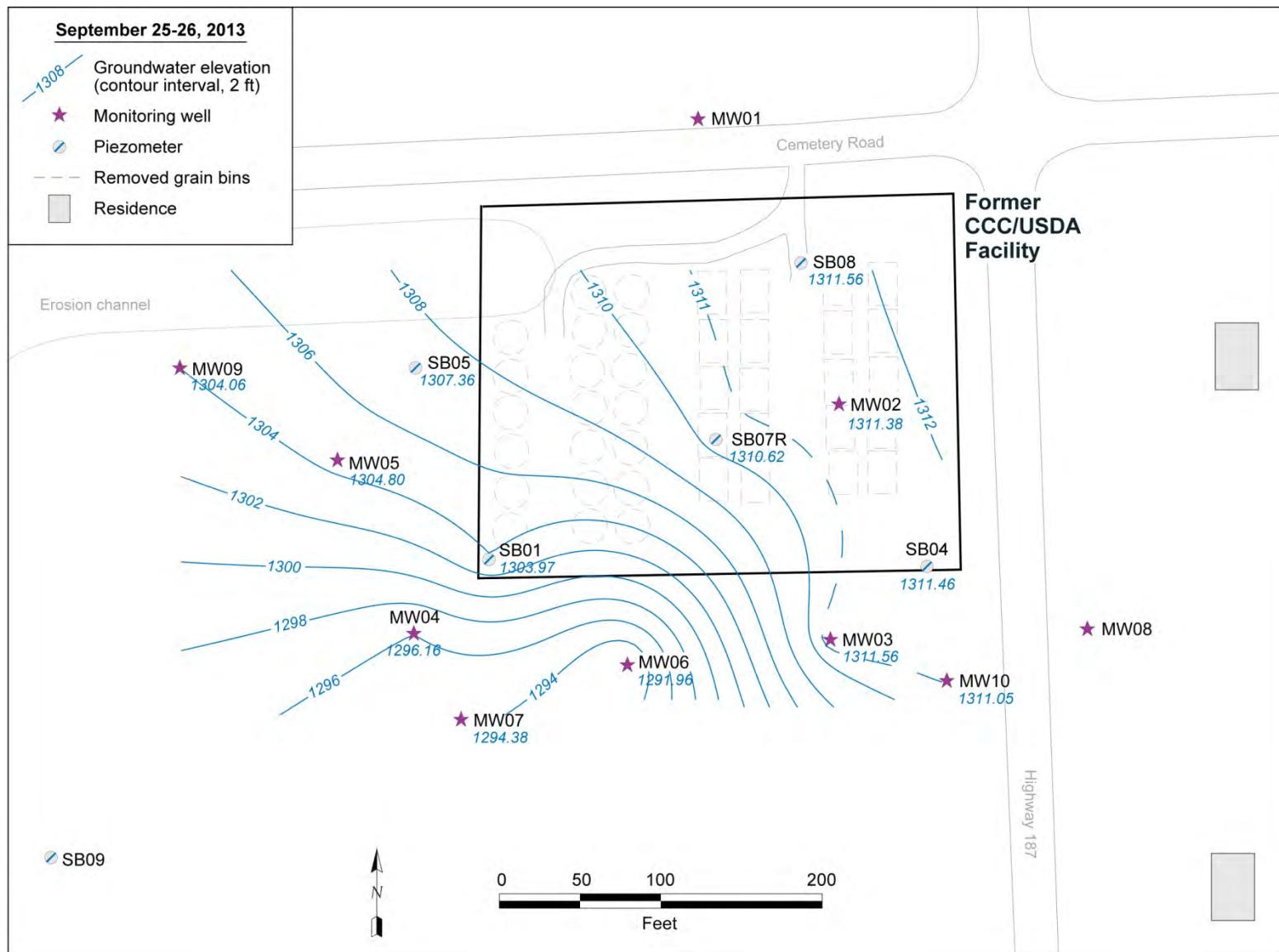


FIGURE 3.1 Potentiometric surface, based on groundwater levels measured manually on September 25-26, 2013.

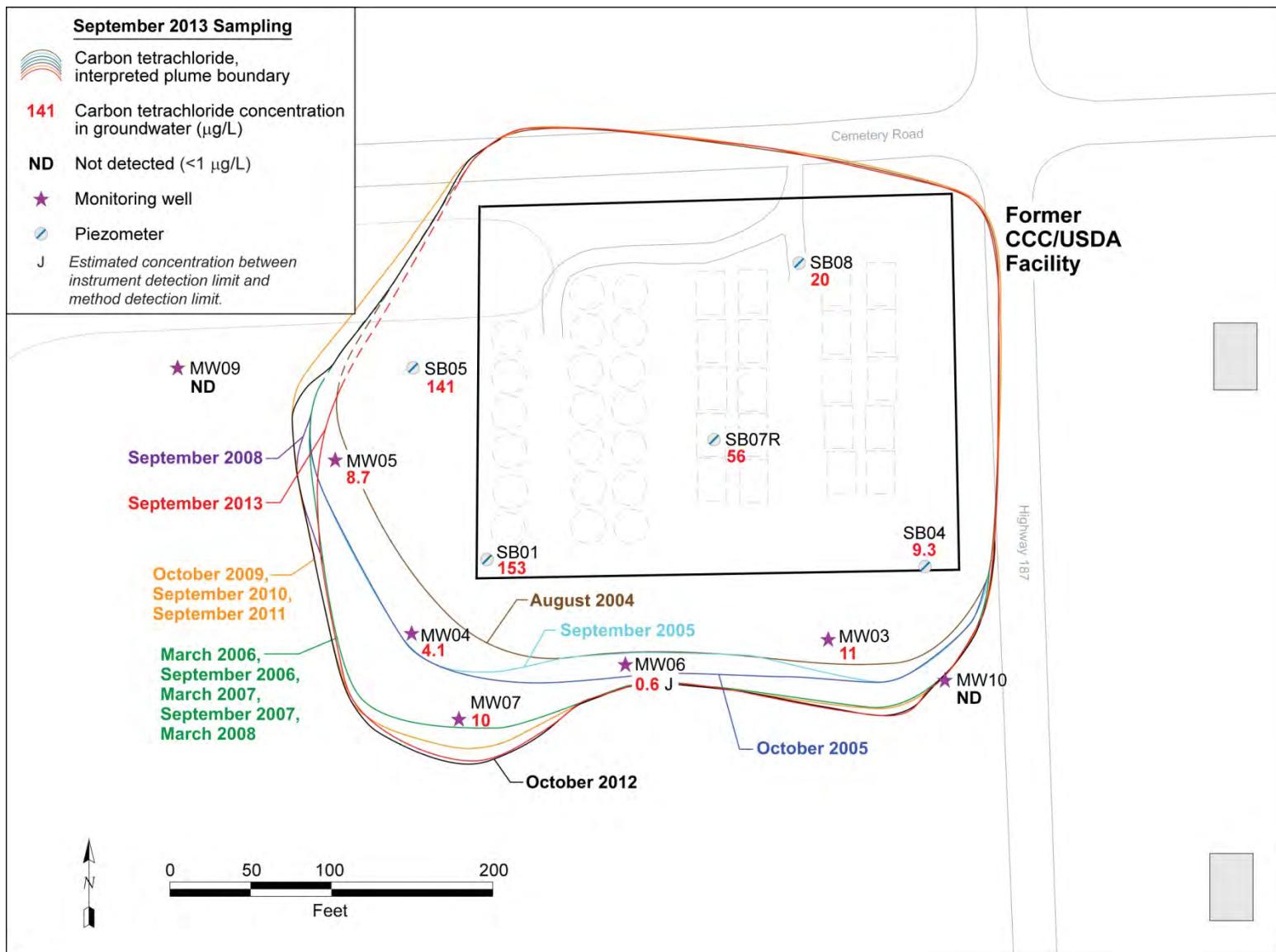


FIGURE 3.2 Carbon tetrachloride concentrations in groundwater in the sitewide monitoring wells sampled in September 2013, with the interpreted lateral extent of the contaminant at intervals since August 2004.



FIGURE 3.3 Carbon tetrachloride in groundwater samples collected during the pre-injection baseline sampling, September and November 2007.



FIGURE 3.4 Field-measured results for DO in groundwater samples collected during the pre-injection baseline sampling, September and November 2007.

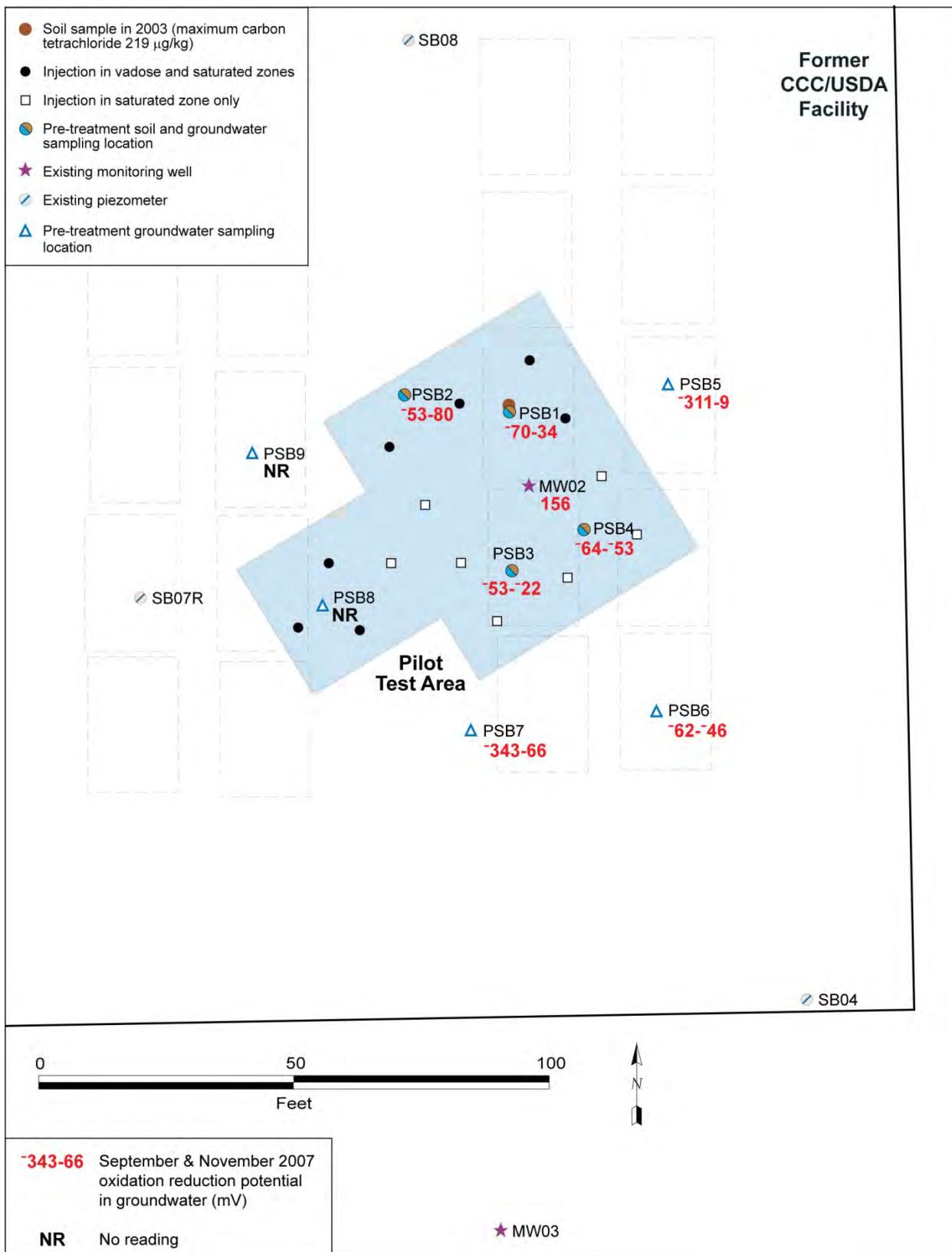


FIGURE 3.5 Field-measured results for ORP in groundwater samples collected during the pre-injection baseline sampling, September and November 2007.

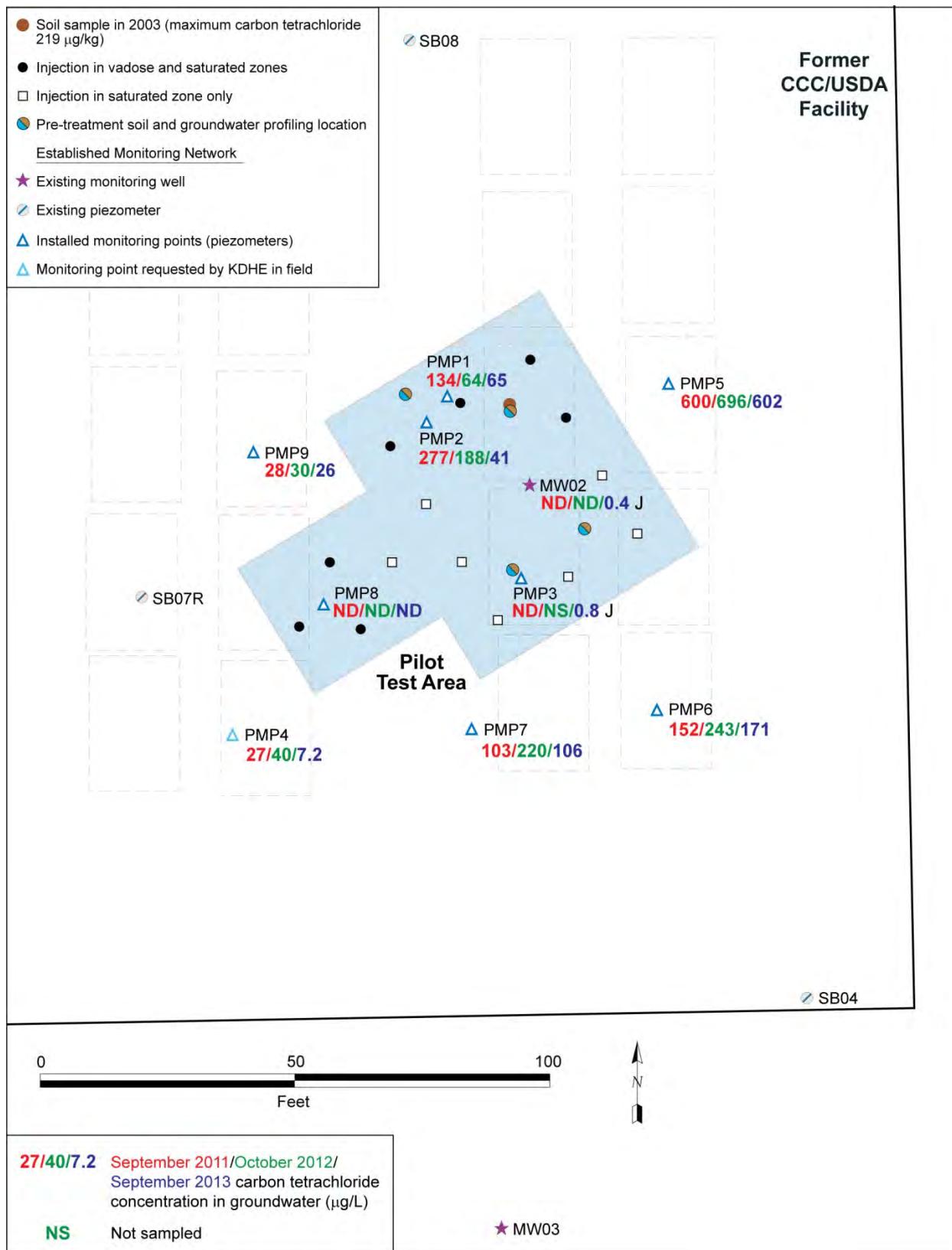


FIGURE 3.6 Analytical results for carbon tetrachloride in groundwater samples collected in fall 2011, 2012, and 2013 at the IM pilot test monitoring points.

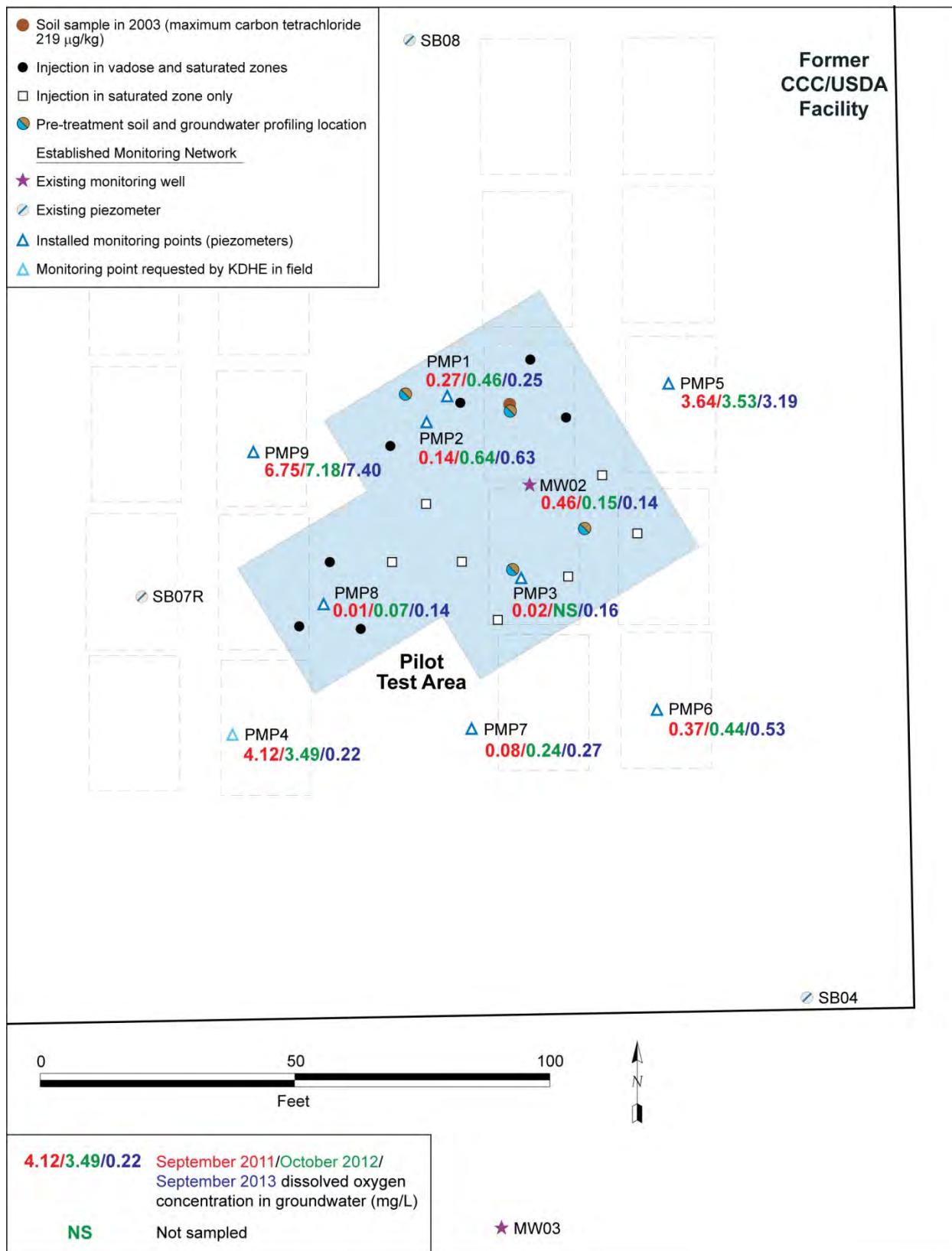


FIGURE 3.7 Field-measured results for DO in groundwater samples collected in fall 2011, 2012, and 2013 at the IM pilot test monitoring points.

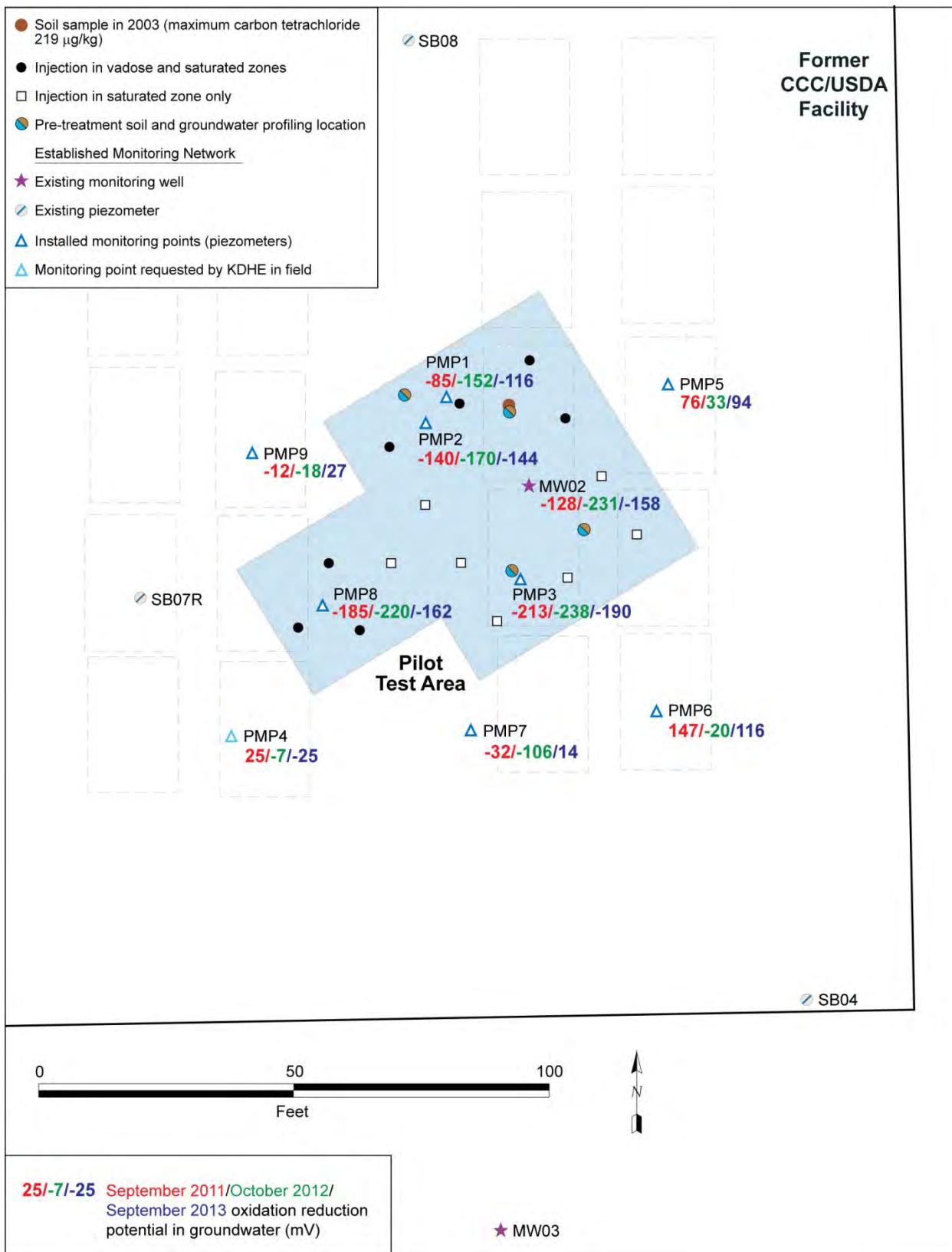


FIGURE 3.8 Field-measured results for ORP in groundwater samples collected in fall 2011, 2012, and 2013 at the IM pilot test monitoring points.

4 Conclusions and Future Activities

4.1 Conclusions

4.1.1 Sitewide Conclusions

The findings of the sitewide monitoring in September 2013 support the following conclusions for the wider investigation area:

- Manual measurements of groundwater levels continued to indicate a groundwater flow direction to the south-southwest across the former CCC/USDA facility.
- The September 2013 carbon tetrachloride data for monitoring points in the approved sitewide network were generally consistent with previous results. Moderate decreases in carbon tetrachloride concentrations were observed near the western margin of the groundwater plume. No change or slight increases in carbon tetrachloride concentrations were observed along the southern margin of the monitoring area, reflecting a continuing longer-term trend of very slow downgradient expansion of the plume in this direction.
- The presence of trace to relatively low concentrations of chloroform at most of the sitewide monitoring points having detectable carbon tetrachloride concentrations suggests that some degradation of carbon tetrachloride is occurring at these locations, even outside the pilot test area.
- The relatively high DO concentrations and positive ORP levels identified at the sitewide monitoring points indicate that — notwithstanding the observed chloroform concentrations — anaerobic reducing conditions conducive to the reductive dechlorination of carbon tetrachloride are not widely developed outside the pilot test area.
- Although the low DO concentrations and negative ORP levels detected at monitoring well MW06 in September 2008 and October 2009 hinted at

possible development of increasingly anaerobic reducing conditions at this location, such values did not persist in 2010-2013. The variability in these parameters (particularly the negative ORP levels) is somewhat greater at MW06 than at other monitoring locations, for reasons that are not clear.

4.1.2 Conclusions for the IM Pilot Test Area

The findings of the IM pilot test monitoring in September 2013 support the following conclusions for the pilot test area:

- The concentrations of carbon tetrachloride in groundwater in the IM pilot test injection field remained considerably below pre-injection levels in 2013, with a decrease from October 2012 to September 2013 at PMP2. Nevertheless, carbon tetrachloride was identified in the injection area at levels up to 65 µg/L in September 2013 (PMP1), which is above the KDHE Tier 2 RBSL of 5.0 µg/L.
- The 2013 results confirmed that relatively oxygen-depleted, chemically reducing conditions favorable to the degradation of carbon tetrachloride via reductive dechlorination persist in the injection field as a result of the ISCR injections in November 2007. The apparent longevity (6 yr to date) of the ISCR treatment's impact indicated by these observations, which now exceeds the range of 1-5 yr estimated by the manufacturer (Mueller 2012), is consistent with the slow rate of groundwater movement. Continued observations will track the ongoing effects of the ISCR material.
- Decreases in DO and ORP values and carbon tetrachloride concentrations at locations downgradient of the pilot test injection field suggest that the range of influence of the injected ISCR treatment technology might be slowly increasing with time, in the direction of natural groundwater flow.

4.2 Future Activities

Because of the general stability of groundwater levels, groundwater flow directions, contaminant concentrations, and DO and ORP levels, the KDHE (2012) agreed to a change to annual monitoring at all locations, beginning in 2013. The next sampling event is scheduled for September 2014.

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Appendix A:

Monitoring Well PMP3 Repair on June 20, 2013



Lorraine M. LaFreniere, Ph.D.
Manager, Applied Geosciences and
Environmental Management Section

Environmental Science Division
Argonne National Laboratory
9700 South Cass Avenue, Bldg. 203
Argonne, IL 60439-4843

1-630-252-7969 phone
1-630-252-5747 fax
lafreniere@anl.gov

March 12, 2014

Ms. Holly Burke, Environmental Scientist
Bureau of Environmental Remediation
Kansas Department of Health and Environment
1000 SW Jackson St., Suite 410
Topeka, KS 66612-1367

Subject: Centralia Well PMP3 Repair Summary ANL/EVS/AGEM/CHRON-1680

Dear Ms. Burke:

In October 2012, the flush mount at monitoring well PMP3, part of the ISCR pilot test remediation monitoring network at Centralia, Kansas, was found to have shifted, preventing groundwater sampling and the retrieval of water level measurements (Figure 1). At your request (in a letter to Caroline Roe of the Commodity Credit Corporation, U.S. Department of Agriculture, dated May 24, 2013), the well was repaired on June 20, 2013 (Figure 2), and subsequently was sampled in September 2013.

Field observations on June 20, 2013, indicated that the well's surface mount had been hit and run over by a farm tractor, causing the 0.5-in. PVC well casing to bend below the ground surface (Figure 3). Since the well installation in 2008, the soil surrounding the PMP3 installation had dried significantly and had separated from the surface completion, which was suspended on the casing by the concrete seal at the base of the flush mount. Use of a mini excavator to lift the surface mount and excavate around the well casing revealed that the casing was bent at a depth of roughly 1.5 ft BGL (Figure 4). The bent casing was removed and replaced with a coupler and a new piece of casing, secured with glue. The surface soil was replaced, and the flush mount was repositioned over the well. With the PMP3 repair and restoration complete, the monitoring point was successfully sampled on September 25, 2013.

Sincerely,

James M. Stone

Lorraine M. LaFreniere

LML:rs

Attachments: Figures 1-4

cc: C. Roe (CCC/USDA)
G. Fremerman (CCC/USDA)
S. Gilmore (CCC/USDA)
Chron 1680



FIGURE 1 Damaged surface completion of well PMP3 before repair on June 20, 2013.

KDHE-BER Remedial Section Field Activities Notification Form

Page 1 of 1

KDHE-BER Remedial Section Field Activities Notification Form

This NEW notification was created 06/12/2013 01:53:02 PM,
emailed to KDHE, and saved on the database with Notification ID : 7120067
Please Print this notification for your records and Close

*Project Name: Centralia, Kansas
*KDHE Project Manager: Burke, Holly

Location of work:

*County: NEMAHA
City (or nearest city): Centralia, Kansas

Anticipated dates and duration of work:

*Start Date: 06/20/2013
*Duration of work (days): 1-2 days
 Check this box if work is expected to occur on any weekend or holiday days.

Primary Field Contact:

*Name: Travis Kamler
*Affiliation/Company: TCW, Inc.
*Primary Phone Number: 402-416-7255
Alternate Phone Number(s): 402-475-5030
Email Address: tkamler@tewconstruction.com

Alternate Contact:

*Name: Lorraine M. LaFreniere
*Affiliation/Company: Argonne National Laboratory
*Primary Phone Number: 630-252-7969
Alternate Phone Number(s): 630-967-8701
Email Address: lafreniere@anl.gov

*Brief Description of Work to Be Performed

(Include persons, nature of activities, general location information, and anticipated schedule of activities):

Repair of flush mount installation at location PMP3 per the KDHE request in the May 24, 2013 comments on the Annual Report of Groundwater Monitoring at Centralia in 2012.



FIGURE 3 Bent well casing after excavation.



FIGURE 4 Damaged section of casing after removal from well PMP3.

Appendix B:
Sequence of Sampling Activities in 2013

TABLE B.1 Sequence of sampling activities at Centralia in 2013.

Sample Date and Time	Location	Sample	Sample Type ^a	Sample Matrix ^b	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
9/25/13 10:00	QC	CNDIH2O-W-35830 ^c	FB	WQC	–	926131	09/26/13	Field blank of water used for equipment decontamination during September 2013 sampling event.
9/25/13 10:00	QC	CNQCTB-W-35831 ^c	TB	WQC	–	926130	09/26/13	Trip blank sent to the AGEM Laboratory for VOC analysis with water samples shipped under chain-of-custody (COC) form 926130.
9/25/13 10:00	QC	CNQCTB-W-35831VER ^c	VER	WQC	–	926132	09/26/13	Verification sample sent to TestAmerica.
9/25/13 13:06	MW03	CNMW03-W-35805	N	WG	50.5-60.5	926130	09/26/13	Depth to water = 23.25 ft. Depth of 4-in. well = 60.5 ft. Sample collected by using low-flow bladder pump positioned at 55.5 ft after purging of 6 L.
9/25/13 13:06	MW03	CNMW03-W-35805VER ^c	VER	WG	50.5-60.5	926132	09/26/13	Verification sample sent to TestAmerica.
9/25/13 13:38	PMP5	CNPMP5-W-35821	N	WG	50-60	926131	09/26/13	Depth to water = 24.45 ft. Depth of 0.5-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 55 ft after purging of 1.5 L.
9/25/13 13:54	MW04	CNMW04DUP-W-35826 ^c	DUP-F	WG	50.5-60.5	926131	09/26/13	Field replicate.
9/25/13 13:54	MW04	CNMW04-W-35806	N	WG	50.5-60.5	926130	09/26/13	Depth to water = 26.78 ft. Depth of 4-in. well = 60.5 ft. Sample collected by using low-flow bladder pump positioned at 42.5 ft after purging of 6.5 L.
9/25/13 14:52	MW05	CNMW05-W-35807	N	WG	34.5-44.5	926130	09/26/13	Depth to water = 13.75 ft. Depth of 4-in. well = 44.5 ft. Sample collected by using low-flow bladder pump positioned at 39.5 ft after purging of 6.5 L.
9/25/13 14:52	PMP6	CNPMP6-W-35822	N	WG	50-60	926131	09/26/13	Depth to water = 24.35 ft. Depth of 0.5-in. well = 60 ft. Sample collected with Waterra pump positioned at 55 ft after purging of 4.5 L. Tannish in color with slight odor.

TABLE B.1 (Cont.)

Sample Date and Time	Location	Sample	Sample Type ^a	Sample Matrix ^b	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
9/25/13 15:40	MW06	CNMW06-W-35808	N	WG	46.5-56.5	926130	09/26/13	Depth to water = 38.00 ft. Depth of 4-in. well = 56.5 ft. Sample collected by using low-flow bladder pump positioned at 51.5 ft after purging of 5.5 L.
9/25/13 15:40	PMP7	CNPMP7-W-35823	N	WG	50-60	926131	09/26/13	Depth to water = 23.35 ft. Depth of 0.5-in. well = 60 ft. Sample collected with Waterra pump positioned at 55 ft after purging of 5 L. Clear to tan hint with slight odor.
9/25/13 15:40	PMP7	CNPMP7-W-35823VER ^c	VER	WG	50-60	926132	09/26/13	Verification sample sent to TestAmerica.
9/25/13 15:48	QC	CNQCIR-W-35829 ^c	RI	WQC	—	926131	09/26/13	Rinsate of decontaminated sampling line after collection of sample CNMW06-W-35808.
9/25/13 16:18	PMP4	CNPMP4-W-35820	N	WG	48.75-58.75	926131	09/26/13	Depth to water = 21.5 ft. Depth of 0.5-in. well = 58.75 ft. Sample collected with Waterra pump positioned at 53.75 ft after purging of 5 L. Tannish in color with slight odor.
9/25/13 16:18	PMP4	CNPMP4-W-35820DUP ^c	DUP-L	WG	48.75-58.75	926131	09/26/13	Duplicate laboratory analysis.
9/25/13 16:44	MW07	CNMW07-W-35809	N	WG	45-55	926130	09/26/13	Depth to water = 30.96 ft. Depth of 2-in. well = 55 ft. Sample collected by using low-flow bladder pump positioned at 50 ft after purging of 7 L.
9/25/13 16:44	MW07	CNMW07-W-35809VER ^c	VER	WG	45-55	926132	09/26/13	Verification sample sent to TestAmerica.
9/25/13 16:58	PMP8	CNPMP8-W-35824	N	WG	50-60	926131	09/26/13	Depth to water = 21.9 ft. Depth of 0.5-in. well = 60 ft. Sample collected with Waterra pump positioned at 55 ft after purging of 5 L. Gray in color with odor.
9/25/13 17:32	MW09	CNMW09-W-35810	N	WG	25-35	926130	09/26/13	Depth to water = 6.85 ft. Depth of 2-in. well = 35 ft. Sample collected by using low-flow bladder pump positioned at 30 ft after purging of 5.5 L.
9/25/13 17:50	PMP3	CNPMP3DUP-W-35827 ^c	DUP-F	WG	50-60	926131	09/26/13	Field replicate.

TABLE B.1 (Cont.)

Sample Date and Time	Location	Sample	Sample Type ^a	Sample Matrix ^b	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
9/25/13 17:50	PMP3	CNPMP3-W-35819	N	WG	50-60	926131	09/26/13	Depth to water = 23.90 ft. Depth of 0.5-in. well = 60 ft. Sample collected with Waterra pump positioned at 55 ft after purging of 6 L. Silty gray in color with odor.
9/25/13 18:32	MW10	CNMW10-W-35811	N	WG	30-45	926130	09/26/13	Depth to water = 23.90 ft. Depth of 2-in. well = 45 ft. Sample collected by using low-flow bladder pump positioned at 37.5 ft after purging of 5.5 L.
9/25/13 18:32	MW10	CNMW10-W-35811VER ^c	VER	WG	30-45	926132	09/26/13	Verification sample sent to TestAmerica.
9/25/13 18:40	PMP9	CNPMP9-W-35825	N	WG	50-60	926131	09/26/13	Depth to water = 22.00 ft. Depth of 0.5-in. well = 60 ft. Sample collected with Waterra pump positioned at 55 ft after purging of 5 L. Tannish in color with slight odor; silty.
9/25/13 19:26	SB07R	CNSB07R-W-35815	N	WG	45-60	926130	09/26/13	Depth to water = 21.48 ft. Depth of 2-in. well = 60 ft. Sample collected by using low-flow bladder pump positioned at 52.5 ft after purging of 7.5 L.
9/26/13 9:50	SB01	CNSB01-W-35812	N	WG	40-50	926130	09/26/13	Depth to water = 21.60 ft. Depth of 1-in. well = 50 ft. Sample collected by using low-flow bladder pump positioned at 45 ft after purging of 2 L.
9/26/13 10:40	SB04	CNSB04-W-35813	N	WG	51-61	926130	09/26/13	Depth to water = 24.60 ft. Depth of 1-in. well = 61 ft. Sample collected by using low-flow bladder pump positioned at 56 ft after purging of 1.5 L.
9/26/13 10:40	SB04	CNSB04-W-35813DUP ^c	DUP-L	WG	51-61	926130	09/26/13	Duplicate laboratory analysis.
9/26/13 11:26	SB05	CNSB05-W-35814	N	WG	32-42	926130	09/26/13	Depth to water = 14.15 ft. Depth of 1-in. well = 42 ft. Sample collected by using low-flow bladder pump positioned at 37 ft after purging of 13 L.
9/26/13 12:12	SB08	CNSB08-W-35816	N	WG	52-62	926130	09/26/13	Depth to water = 21.28 ft. Depth of 1-in. well = 62 ft. Sample collected by using low-flow bladder pump positioned at 57 ft after purging of 15 L.
9/26/13 12:12	SB08	CNSB08-W-35816DUP ^c	DUP-L	WG	52-62	926130	09/26/13	Duplicate laboratory analysis.

TABLE B.1 (Cont.)

Sample Date and Time		Location	Sample	Sample Type ^a	Sample Matrix ^b	Depth (ft BGL)	Chain of Custody	Shipping Date	Sample Description
9/26/13	13:50	QC	CNQCIR-W-35828 ^c	RI	WQC	–	926131	09/26/13	Rinsate of decontaminated sampling line after collection of sample CNPMP5-W-35821.
9/26/13	14:18	PMP2	CNPMP2-W-35818	N	WG	50-60	926131	09/26/13	Depth to water = 23.35 ft. Depth of 0.5-in. well = 60 ft. Sample collected with Waterra pump positioned at 55 ft after purging of 5 L. Gray color with odor.
9/26/13	14:38	MW02	CNMW02-W-35804	N	WG	49.5-59.5	926130	09/26/13	Depth to water = 23.85 ft. Depth of 4-in. well = 59.5 ft. Sample collected by using low-flow bladder pump positioned at 54.5 ft after purging of 5.5 L.
9/26/13	14:56	PMP1	CNPMP1-W-35817	N	WG	50-60	926131	09/26/13	Depth to water = 23.35 ft. Depth of 0.5-in. well = 60 ft. Sample collected with Waterra pump positioned at 55 ft after purging of 5 L. Tan in color with odor; silty.
9/26/13	15:30	QC	CNQCTB-W-35832 ^c	TB	WQC	–	926131	09/26/13	Trip blank sent to the AGEM Laboratory for VOCs analysis with water samples shipped under COC 926131.

^a Sample types: DUP-F, field replicate; DUP-L, duplicate laboratory analysis; FB, field blank; N, primary sample; RI, rinsate; TB, trip blank; VER, verification sample.

^b Matrix codes: WG, groundwater; WQC, QA/QC water sample (e.g., trip blank).

^c Quality control sample.

Appendix C:
Quality Control Data Summary

TABLE C.1 Analytical results from the AGEM Laboratory for quality control samples collected in 2013.

Location	Sample	Sample Date	Sample Type ^a	Depth (ft BGL)	Concentration (µg/L)		
					Carbon Tetrachloride	Chloroform	Methylene Chloride
MW04	CNMW04-W-35806	9/25/13	N	50.5-60.5	4.1	0.2 J ^b	ND ^c
MW04	CNMW04DUP-W-35826	9/25/13	DUP-F	50.5-60.5	3.9	0.2 J	ND
PMP3	CNPMP3-W-35819	9/25/13	N	50-60	0.8 J	0.5 J	ND
PMP3	CNPMP3DUP-W-35827	9/25/13	DUP-F	50-60	0.9 J	0.6 J	ND
PMP4	CNPMP4-W-35820	9/25/13	N	48.75-58.75	7.2	1.1	ND
PMP4	CNPMP4-W-35820DUP	9/25/13	DUP-L	48.75-58.75	7.2	1.2	ND
SB04	CNSB04-W-35813	9/26/13	N	51-61	9.3	ND	ND
SB04	CNSB04-W-35813DUP	9/26/13	DUP-L	51-61	9.4	ND	ND
SB08	CNSB08-W-35816	9/26/13	N	52-62	20	1.4	ND
SB08	CNSB08-W-35816DUP	9/26/13	DUP-L	52-62	19	1.4	ND
QC	CNDIH2O-W-35830	9/25/13	FB	-	ND	ND	ND
QC	CNQCIR-W-35828	9/26/13	RI	-	ND	ND	ND
QC	CNQCIR-W-35829	9/25/13	RI	-	ND	ND	ND
QC	CNQCTB-W-35831	9/25/13	TB	-	ND	ND	ND
QC	CNQCTB-W-35832	9/26/13	TB	-	ND	ND	ND

^a Sample types: DUP-F, field replicate; DUP-L, duplicate laboratory analysis; FB, field blank; N, primary sample; RI, rinsate; TB, trip blank.

^b J, compound identified with an estimated concentration between the instrument detection limit and the method detection limit.

^c ND, compound analyzed for but not detected at a level greater than or equal to the method detection limit (< 1 µg/L).

TABLE C.2 Analytical results from the AGEM Laboratory and TestAmerica for verification groundwater samples.^a

Location	Sample	Sample Date	Sample Type ^b	Depth (ft BGL)	Analytical Laboratory	Concentration (µg/L)				Method Detection Limit
						Carbon Tetrachloride	Chloroform	Methylene Chloride		
MW03	CNMW03-W-35805	9/25/13	N	50.5-60.5	AGEM	11	0.2 J ^c	ND ^d	1	
MW03	CNMW03-W-35805VER	9/25/13	VER	50.5-60.5	TestAmerica	12	0.3 J	ND	0.5	
MW07	CNMW07-W-35809	9/25/13	N	45-55	AGEM	10	0.6 J	ND	1	
MW07	CNMW07-W-35809VER	9/25/13	VER	45-55	TestAmerica	12	0.7	ND	0.5	
MW10	CNMW10-W-35811	9/25/13	N	30-45	AGEM	ND	ND	ND	1	
MW10	CNMW10-W-35811VER	9/25/13	VER	30-45	TestAmerica	0.008 J	ND	ND	0.5	
PMP7	CNPMP7-W-35823	9/25/13	N	50-60	AGEM	106	61	6.7	1	
PMP7	CNPMP7-W-35823VER	9/25/13	VER	50-60	TestAmerica	130 D	79 D ^e	6.9 B ^f	0.5	
QC	CNQCTB-W-35831	9/25/13	TB	—	AGEM	ND	ND	ND	1	
QC	CNQCTB-W-35831VER	9/25/13	VER	—	TestAmerica	ND	ND	ND	0.5	

^a TestAmerica verification data are in sample delivery group 200-18648 in Supplement 2 (on CD).

^b Sample types: N, primary sample; TB, trip blank; VER, verification sample.

^c J, compound identified with an estimated concentration between the instrument detection limit and the method detection limit.

^d ND, compound analyzed for but not detected at a level greater than or equal to the indicated method detection limit.

^e D, sample analyzed at dilution.

^f B, compound detected in associated laboratory blank.

Appendix D:

Time Series Diagrams for Selected Parameters at IM Monitoring Points

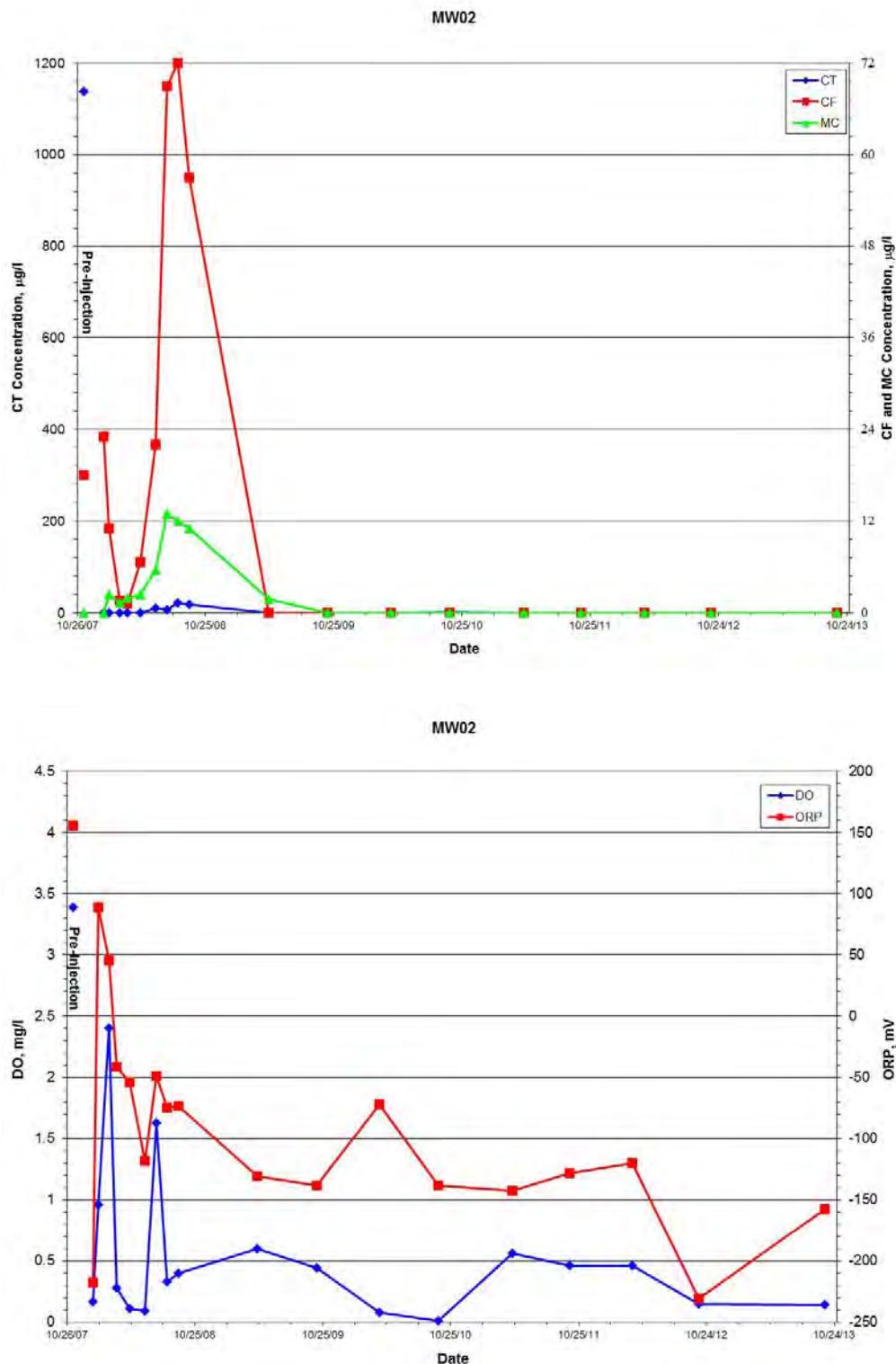


FIGURE D.1 Analytical results for VOCs, DO, and ORP in groundwater samples collected at location MW02, November 2007 to October 2013.

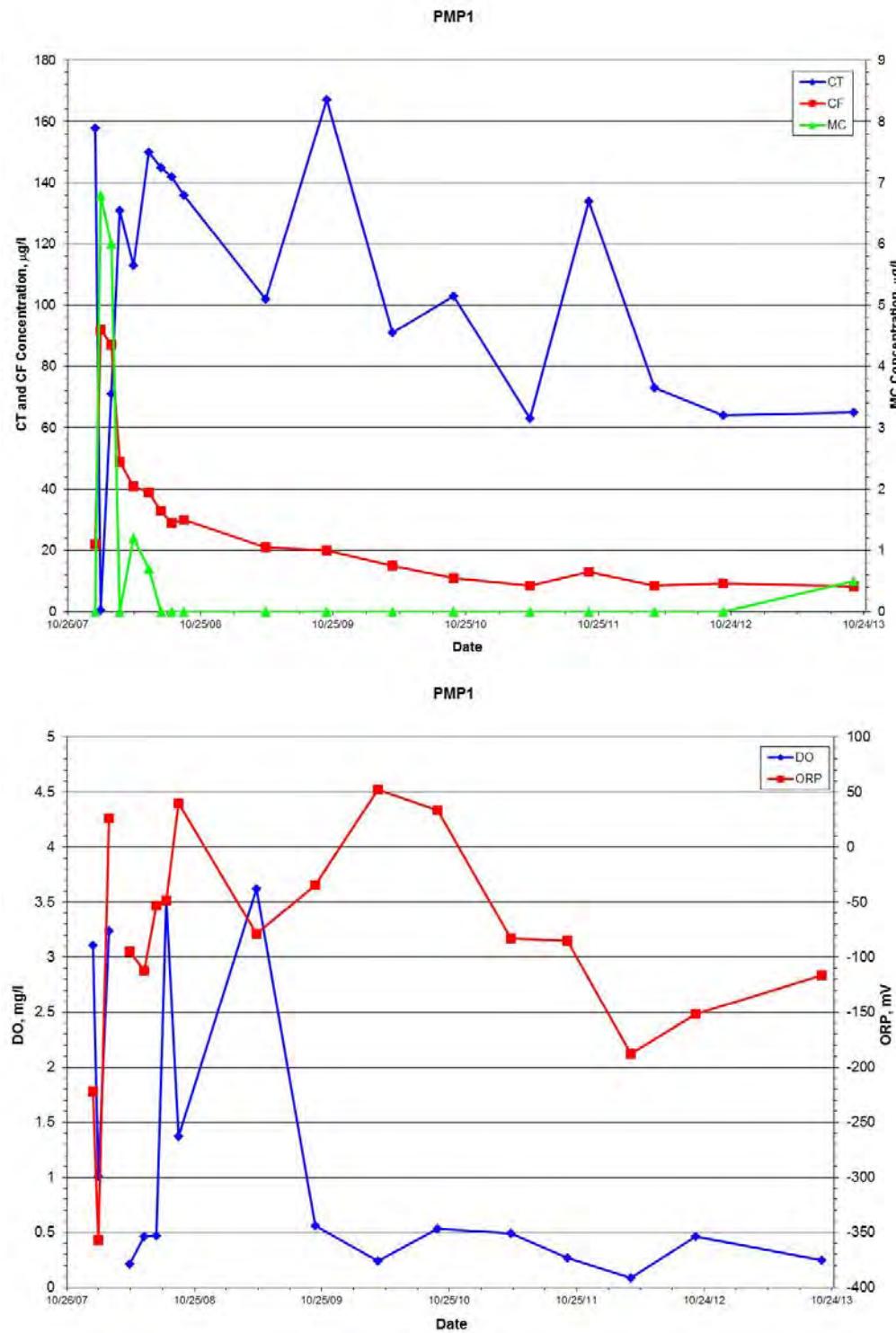


FIGURE D.2 Analytical results for VOCs, DO, and ORP in groundwater samples collected at location PMP1, January 2008 to October 2013.

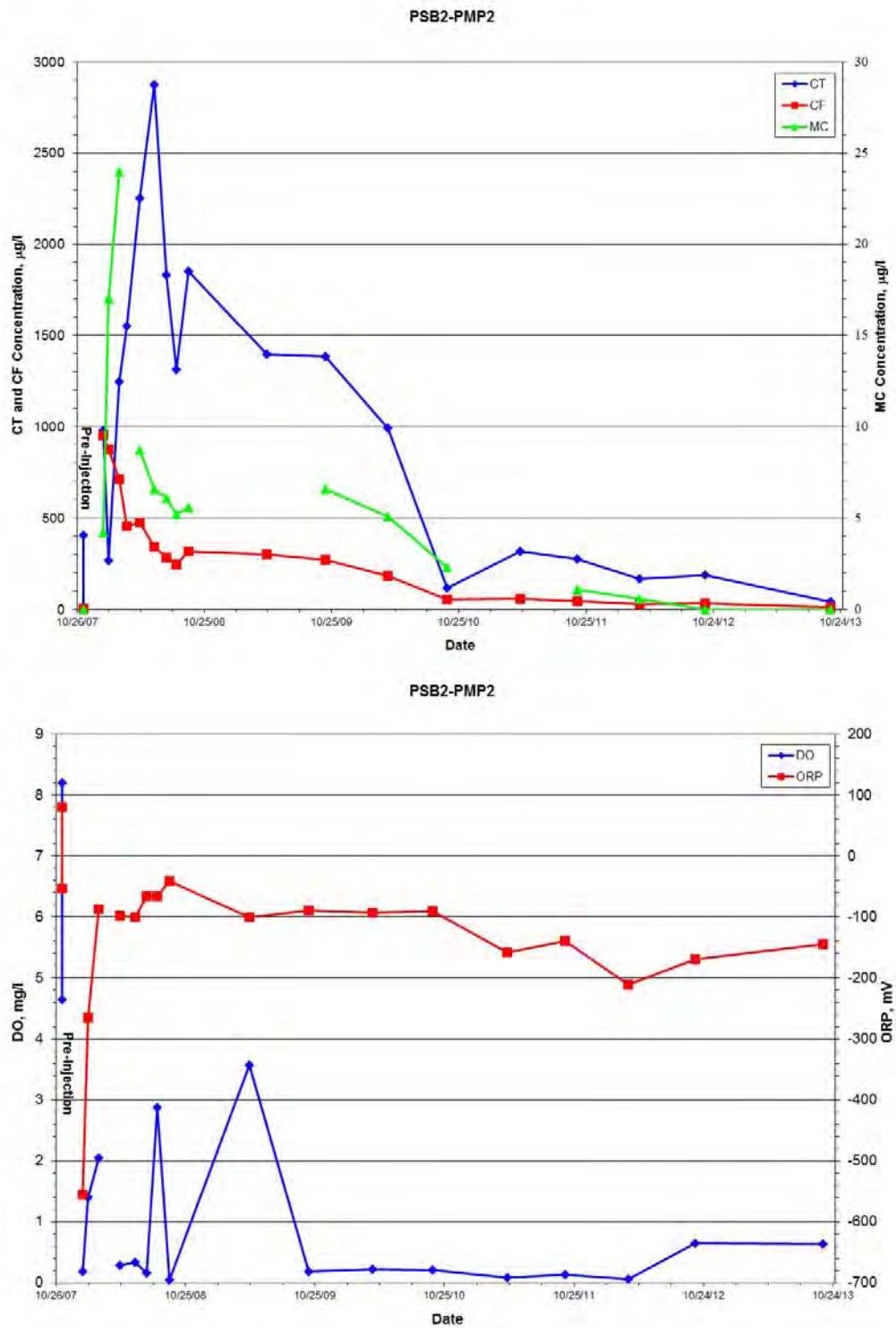


FIGURE D.3 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB2 and PMP2, November 2007 to October 2013.

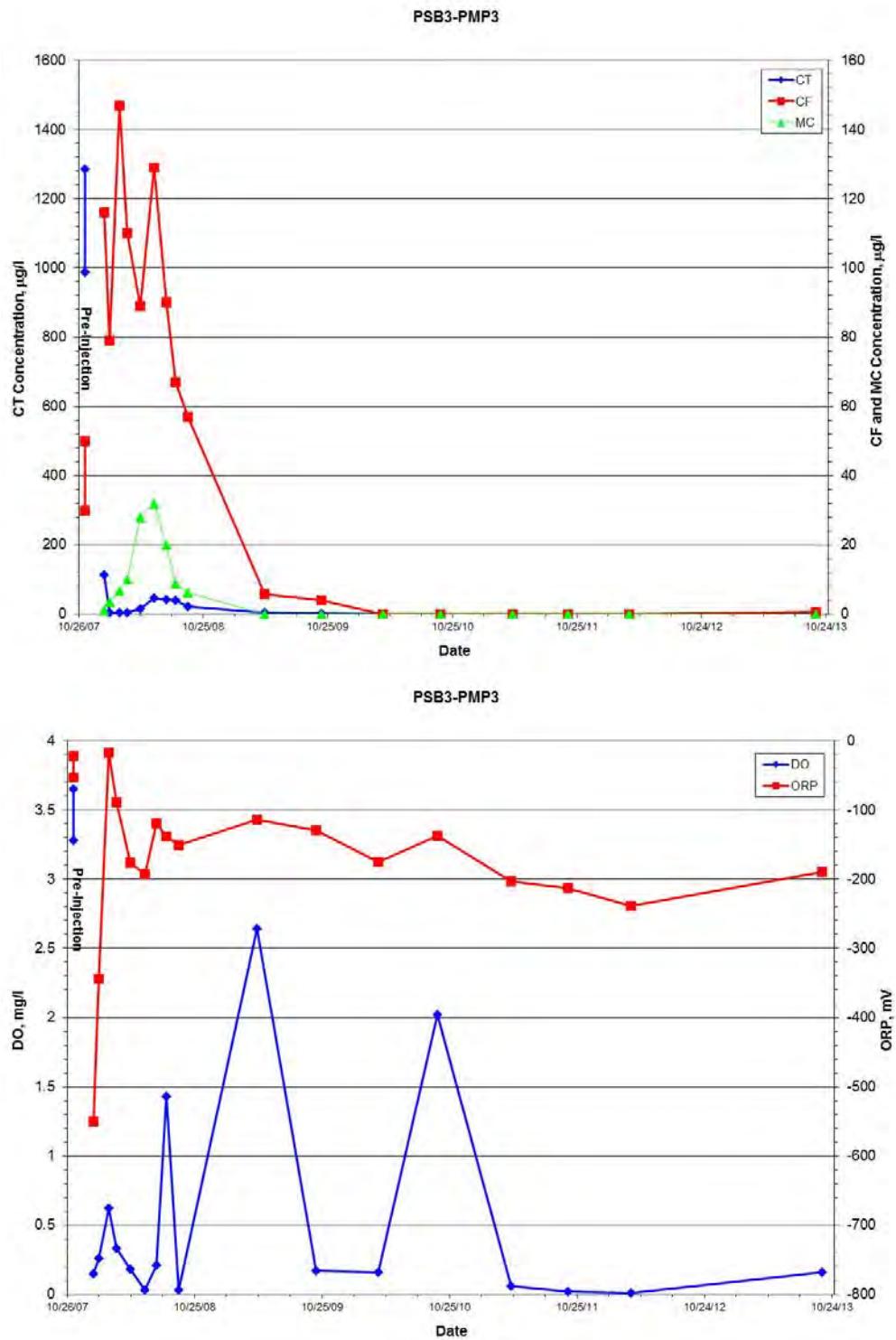


FIGURE D.4 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB3 and PMP3, November 2007 to October 2013.

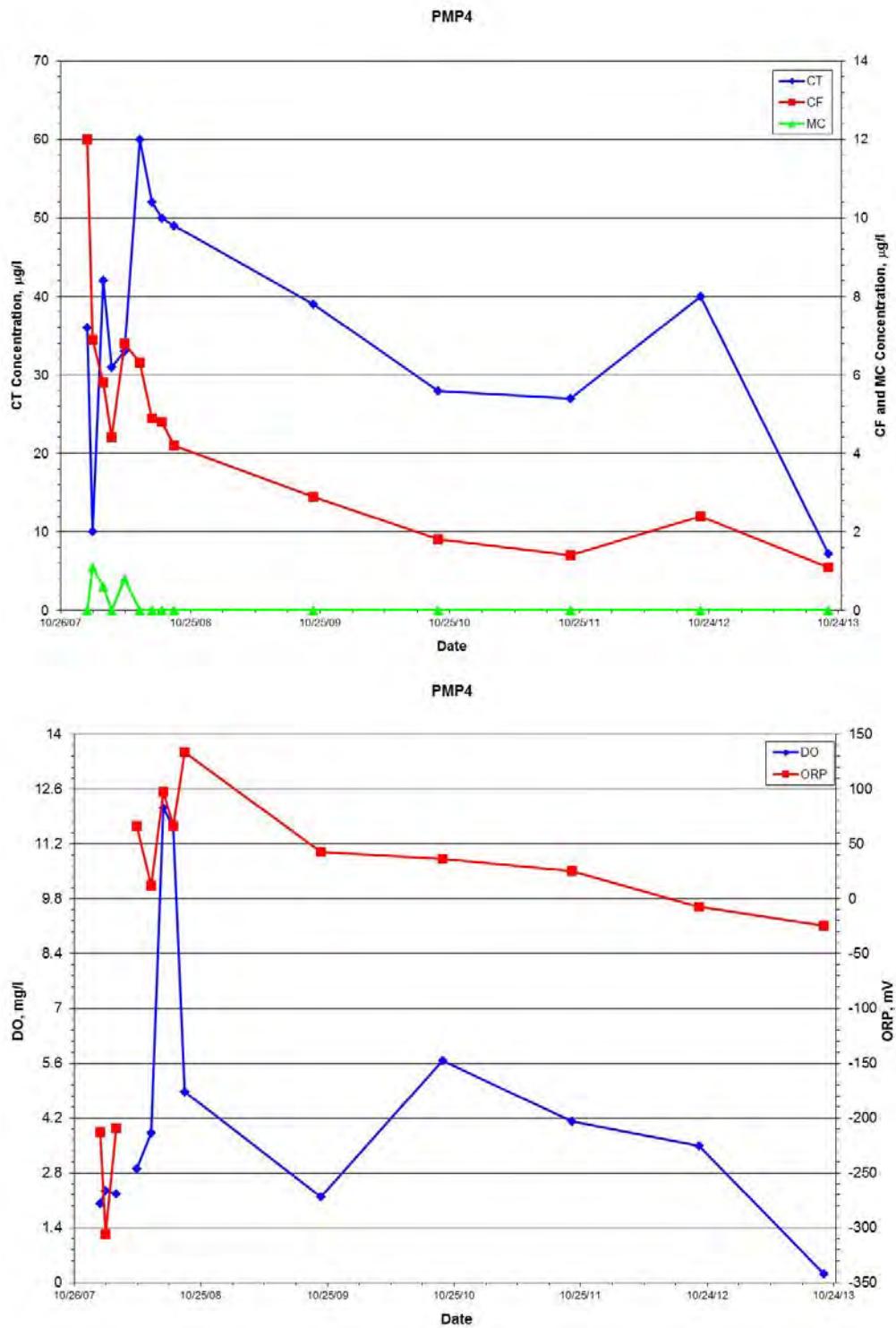


FIGURE D.5 Analytical results for VOCs, DO, and ORP in groundwater samples collected at location PMP4, January 2008 to October 2013.

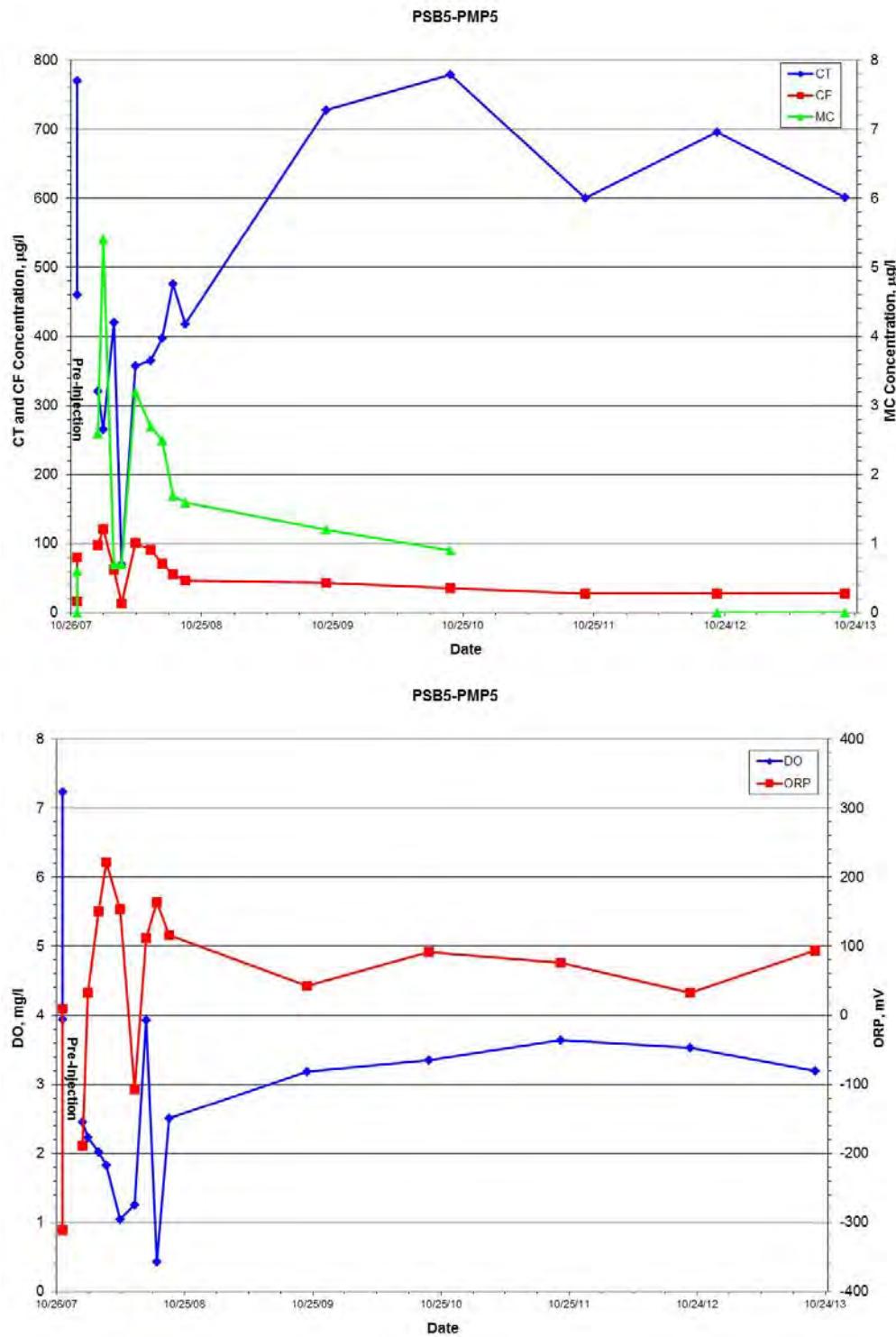


FIGURE D.6 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB5 and PMP5, November 2007 to October 2013.

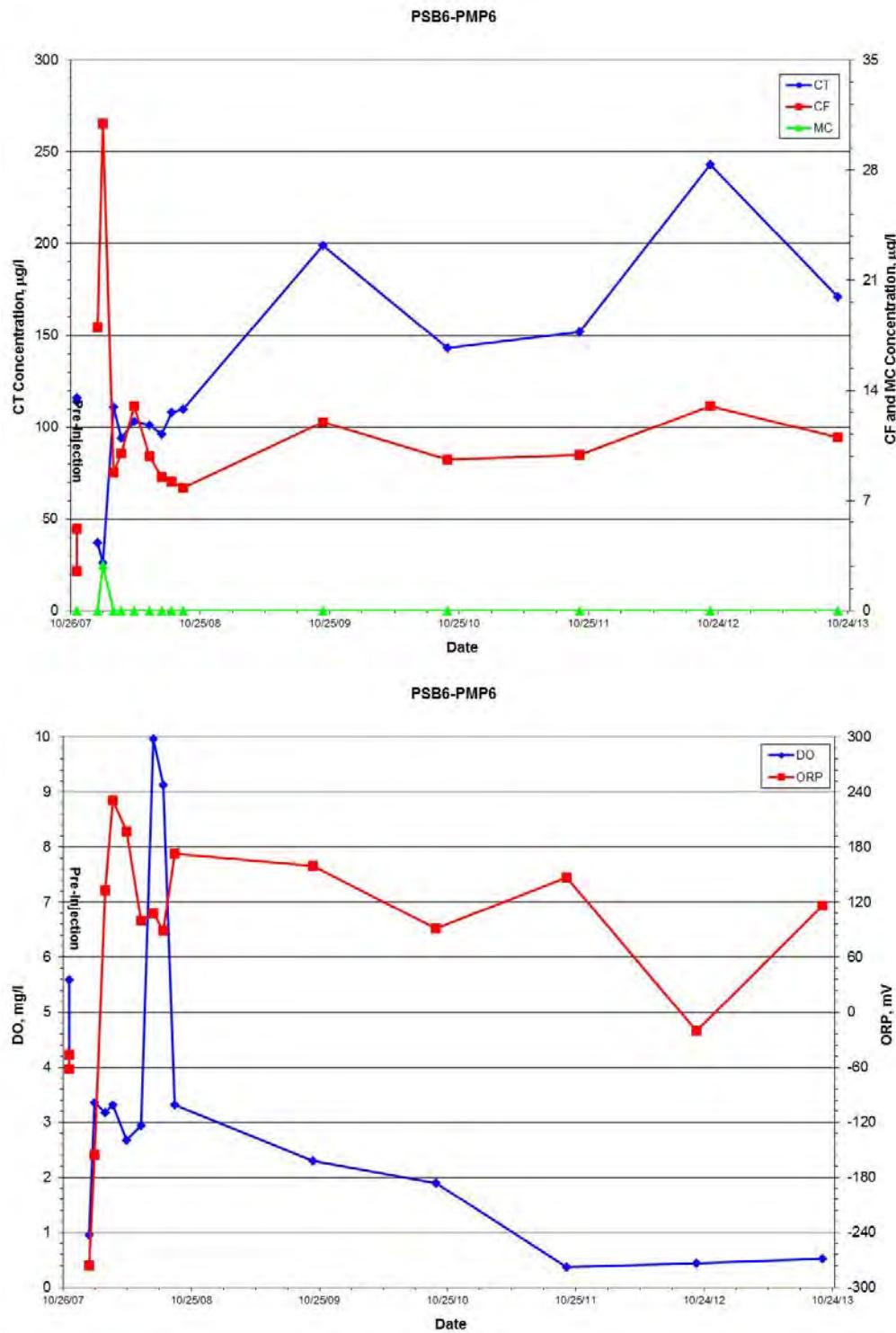


FIGURE D.7 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB6 and PMP6, November 2007 to October 2013.

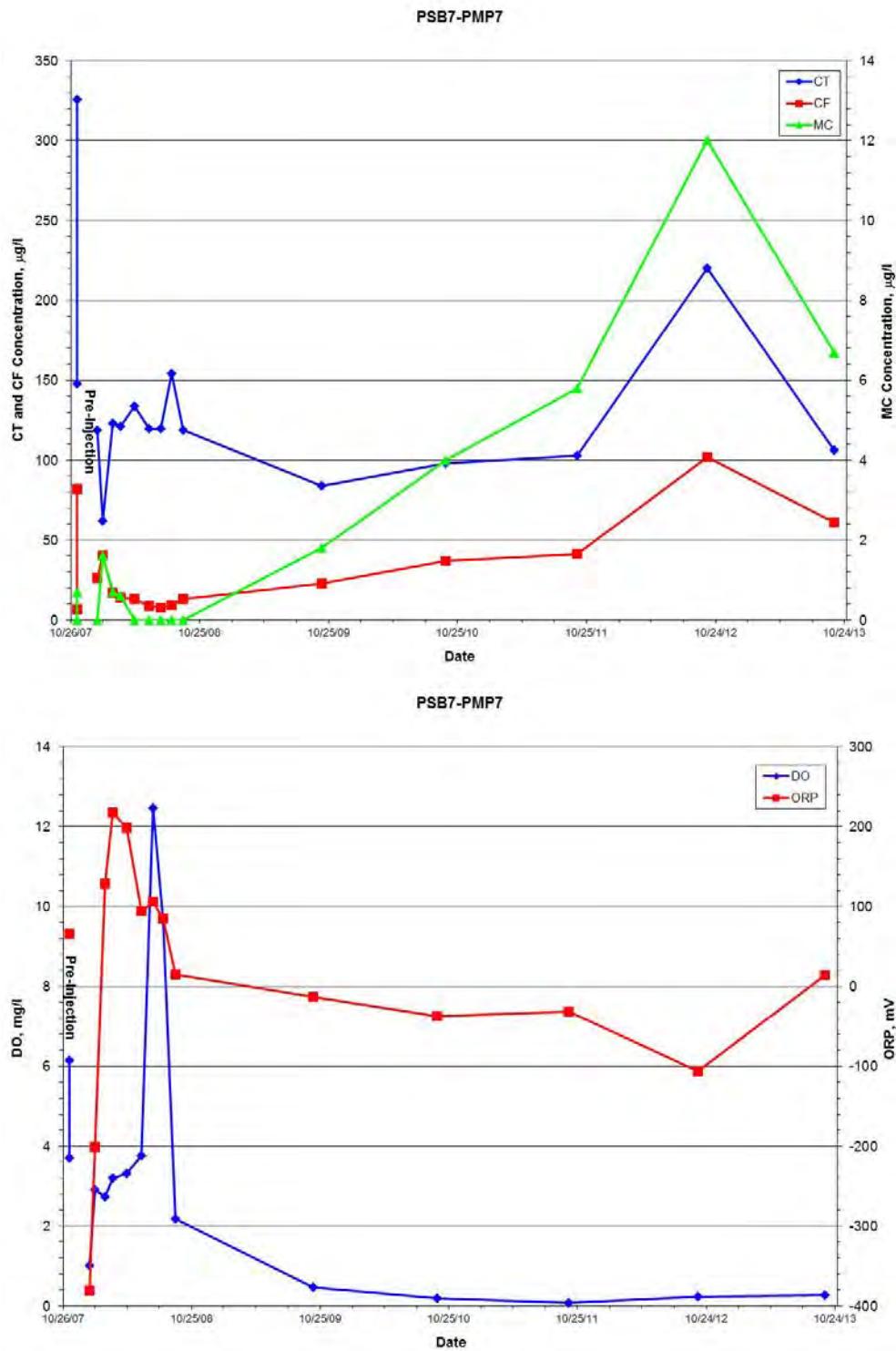


FIGURE D.8 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB7 and PMP7, November 2007 to October 2013.

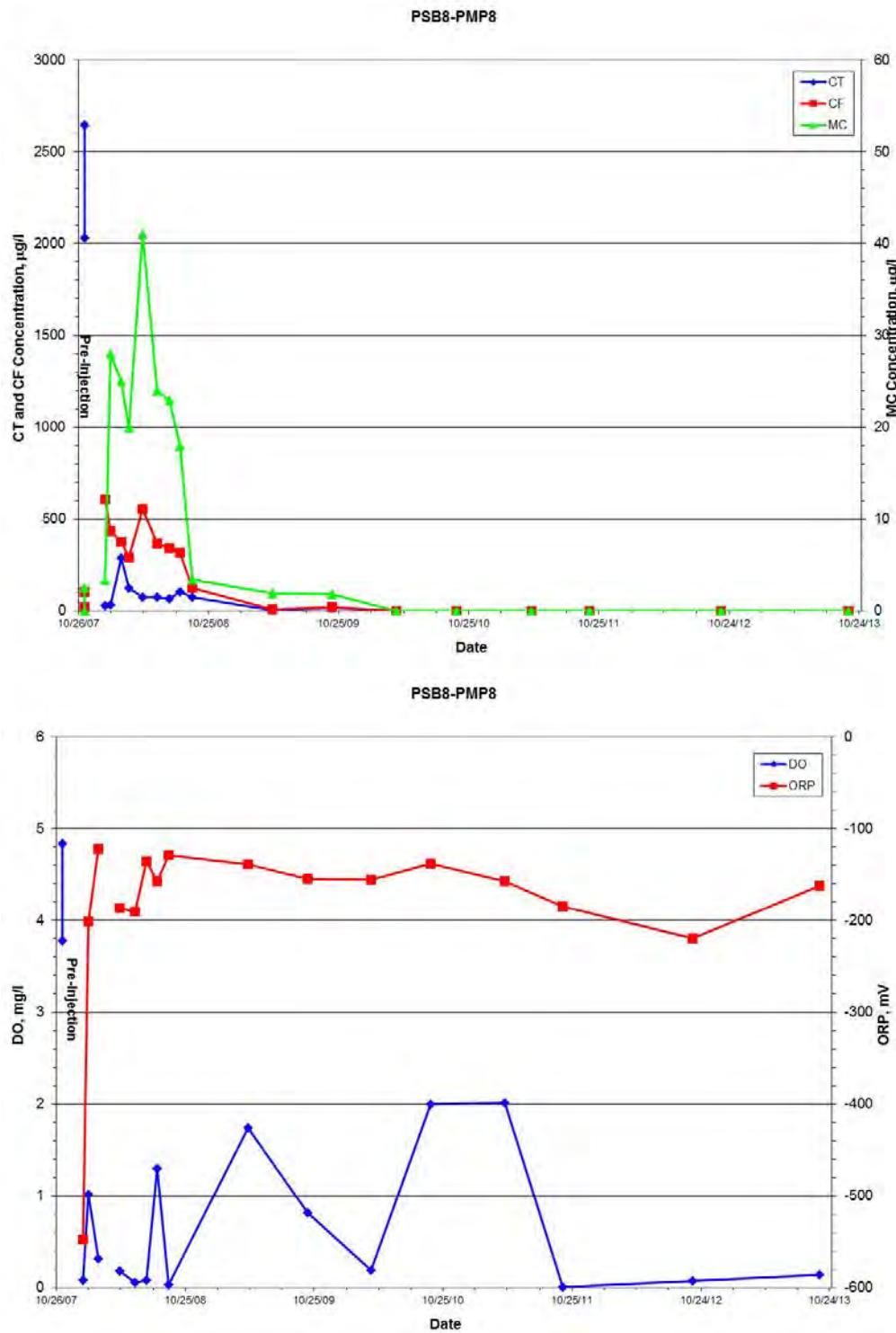


FIGURE D.9 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB8 and PMP8, November 2007 to October 2013.

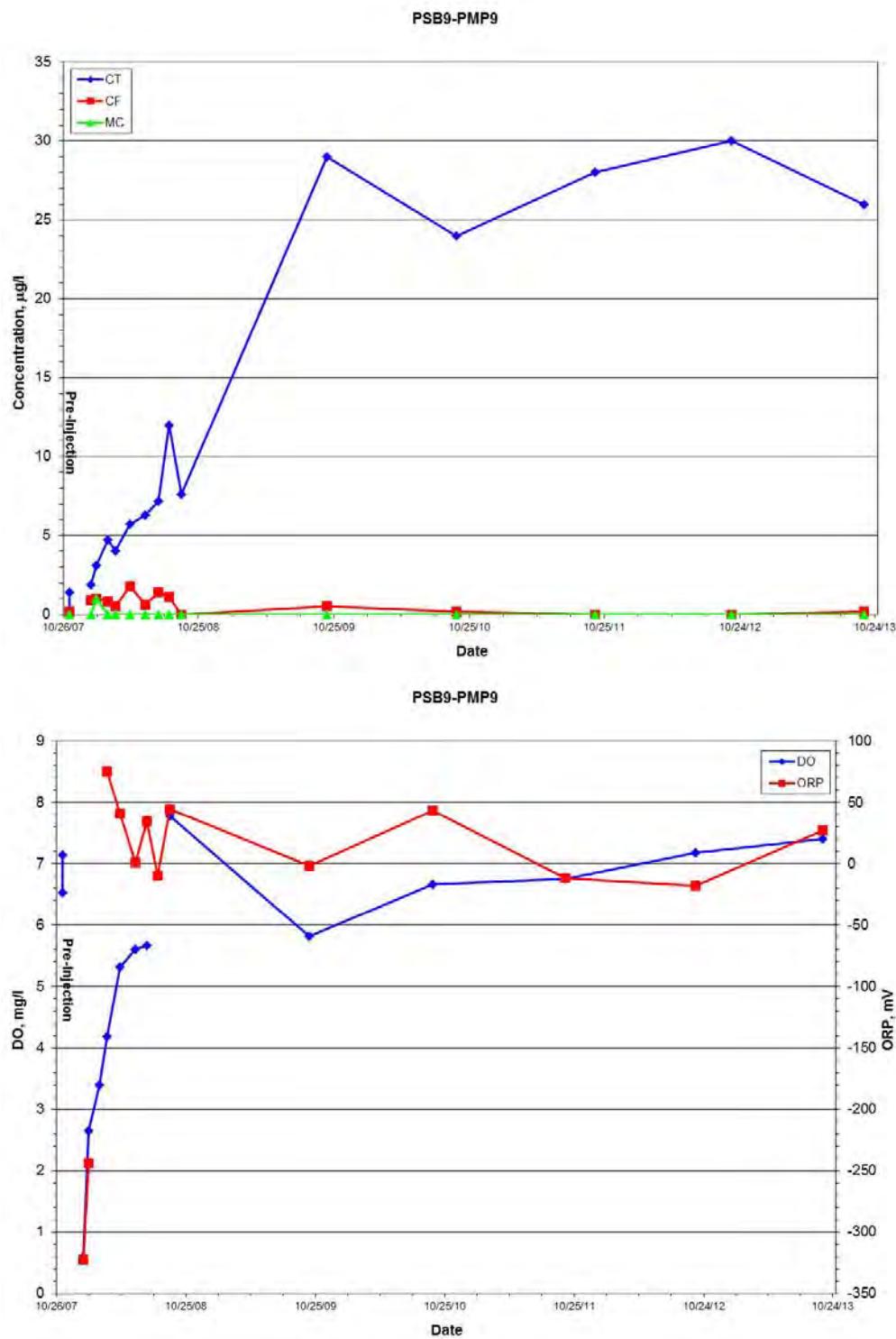


FIGURE D.10 Analytical results for VOCs, DO, and ORP in groundwater samples collected at locations PSB9 and PMP9, November 2007 to October 2013.

Supplement 1:

Waste Characterization and Disposal Documentation

November 06, 2013

Mr. Travis Kamler
TCW Construction Inc
141 M Street
Lincoln, NE 68508

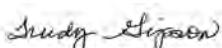
RE: Project: KS Waste Water
Pace Project No.: 60156193

Dear Mr. Kamler:

Enclosed are the analytical results for sample(s) received by the laboratory on October 25, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Trudy Gipson

trudy.gipson@pacelabs.com
Project Manager

Enclosures

cc: Mr. David Surgnier



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: KS Waste Water
Pace Project No.: 60156193

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: KS Waste Water
 Pace Project No.: 60156193

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156193001	AGPURGE-W-10241	Water	10/24/13 08:00	10/25/13 08:15
60156193002	BAPURGE-W-10242	Water	10/24/13 08:10	10/25/13 08:15
60156193003	CNPURGE-W-10243	Water	10/24/13 08:20	10/25/13 08:15
60156193004	EVPURGE-W-10244	Water	10/24/13 08:30	10/25/13 08:15
60156193005	MRPURGE-W-10245	Water	10/24/13 08:40	10/25/13 08:15
60156193006	RAPURGE-W-10246	Water	10/24/13 08:50	10/25/13 08:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: KS Waste Water
 Pace Project No.: 60156193

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60156193001	AGPURGE-W-10241	EPA 504.1	JDH	1
		EPA 5030B/8260	PRG	69
		EPA 353.2	AJM	1
60156193002	BAPURGE-W-10242	EPA 504.1	JDH	1
		EPA 5030B/8260	PRG	69
		EPA 353.2	AJM	1
60156193003	CNPURGE-W-10243	EPA 504.1	JDH	1
		EPA 5030B/8260	PRG	69
		EPA 353.2	AJM	1
60156193004	EVPURGE-W-10244	EPA 504.1	JDH	1
		EPA 5030B/8260	PRG	69
		EPA 353.2	AJM	1
60156193005	MRPURGE-W-10245	EPA 504.1	JDH	1
		EPA 5030B/8260	PRG	69
		EPA 353.2	AJM	1
60156193006	RAPURGE-W-10246	EPA 504.1	JDH	1
		EPA 5030B/8260	PRG	69
		EPA 353.2	AJM	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: AGPURGE-W-10241	Lab ID: 60156193001	Collected: 10/24/13 08:00	Received: 10/25/13 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND ug/L		0.031	1	11/05/13 17:30	11/05/13 22:12	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/30/13 14:33	67-64-1	
Benzene	ND ug/L		1.0	1		10/30/13 14:33	71-43-2	
Bromobenzene	ND ug/L		1.0	1		10/30/13 14:33	108-86-1	
Bromochloromethane	ND ug/L		1.0	1		10/30/13 14:33	74-97-5	
Bromodichloromethane	ND ug/L		1.0	1		10/30/13 14:33	75-27-4	
Bromoform	ND ug/L		1.0	1		10/30/13 14:33	75-25-2	
Bromomethane	ND ug/L		5.0	1		10/30/13 14:33	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		10/30/13 14:33	78-93-3	
n-Butylbenzene	ND ug/L		1.0	1		10/30/13 14:33	104-51-8	
sec-Butylbenzene	ND ug/L		1.0	1		10/30/13 14:33	135-98-8	
tert-Butylbenzene	ND ug/L		1.0	1		10/30/13 14:33	98-06-6	
Carbon disulfide	ND ug/L		5.0	1		10/30/13 14:33	75-15-0	
Carbon tetrachloride	2.1 ug/L		1.0	1		10/30/13 14:33	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		10/30/13 14:33	108-90-7	
Chloroethane	ND ug/L		1.0	1		10/30/13 14:33	75-00-3	
Chloroform	ND ug/L		1.0	1		10/30/13 14:33	67-66-3	
Chloromethane	ND ug/L		1.0	1		10/30/13 14:33	74-87-3	
2-Chlorotoluene	ND ug/L		1.0	1		10/30/13 14:33	95-49-8	
4-Chlorotoluene	ND ug/L		1.0	1		10/30/13 14:33	106-43-4	
1,2-Dibromo-3-chloropropane	ND ug/L		2.5	1		10/30/13 14:33	96-12-8	
Dibromochloromethane	ND ug/L		1.0	1		10/30/13 14:33	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		10/30/13 14:33	106-93-4	
Dibromomethane	ND ug/L		1.0	1		10/30/13 14:33	74-95-3	
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 14:33	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 14:33	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 14:33	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	1		10/30/13 14:33	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	1		10/30/13 14:33	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/30/13 14:33	107-06-2	
1,2-Dichloroethene (Total)	ND ug/L		1.0	1		10/30/13 14:33	540-59-0	
1,1-Dichloroethene	ND ug/L		1.0	1		10/30/13 14:33	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 14:33	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 14:33	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 14:33	78-87-5	
1,3-Dichloropropane	ND ug/L		1.0	1		10/30/13 14:33	142-28-9	
2,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 14:33	594-20-7	
1,1-Dichloropropene	ND ug/L		1.0	1		10/30/13 14:33	563-58-6	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 14:33	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 14:33	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		10/30/13 14:33	100-41-4	
Hexachloro-1,3-butadiene	ND ug/L		1.0	1		10/30/13 14:33	87-68-3	
2-Hexanone	ND ug/L		10.0	1		10/30/13 14:33	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/30/13 14:33	98-82-8	
p-Isopropyltoluene	ND ug/L		1.0	1		10/30/13 14:33	99-87-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: AGPURGE-W-10241	Lab ID: 60156193001	Collected: 10/24/13 08:00	Received: 10/25/13 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND ug/L		1.0	1		10/30/13 14:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/30/13 14:33	108-10-1	
Methyl-tert-butyl ether	ND ug/L		1.0	1		10/30/13 14:33	1634-04-4	
Naphthalene	ND ug/L		10.0	1		10/30/13 14:33	91-20-3	
n-Propylbenzene	ND ug/L		1.0	1		10/30/13 14:33	103-65-1	
Styrene	ND ug/L		1.0	1		10/30/13 14:33	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		1.0	1		10/30/13 14:33	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/30/13 14:33	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		10/30/13 14:33	127-18-4	
Toluene	ND ug/L		1.0	1		10/30/13 14:33	108-88-3	
1,2,3-Trichlorobenzene	ND ug/L		1.0	1		10/30/13 14:33	87-61-6	
1,2,4-Trichlorobenzene	ND ug/L		1.0	1		10/30/13 14:33	120-82-1	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/30/13 14:33	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/30/13 14:33	79-00-5	
Trichloroethene	ND ug/L		1.0	1		10/30/13 14:33	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		10/30/13 14:33	75-69-4	
1,2,3-Trichloropropane	ND ug/L		2.5	1		10/30/13 14:33	96-18-4	
1,2,4-Trimethylbenzene	ND ug/L		1.0	1		10/30/13 14:33	95-63-6	
1,3,5-Trimethylbenzene	ND ug/L		1.0	1		10/30/13 14:33	108-67-8	
Vinyl chloride	ND ug/L		1.0	1		10/30/13 14:33	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/30/13 14:33	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100 %		80-120	1		10/30/13 14:33	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		80-120	1		10/30/13 14:33	17060-07-0	
Toluene-d8 (S)	100 %		80-120	1		10/30/13 14:33	2037-26-5	
Preservation pH	7.0		0.10	1		10/30/13 14:33		
353.2 Nitrogen, NO₂/NO₃ unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	12.5 mg/L		1.0	10		10/25/13 15:10		

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: BAPURGE-W-10242 Lab ID: **60156193002** Collected: 10/24/13 08:10 Received: 10/25/13 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND ug/L		0.030	1	11/05/13 17:30	11/05/13 22:24	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/30/13 14:47	67-64-1	
Benzene	ND ug/L		1.0	1		10/30/13 14:47	71-43-2	
Bromobenzene	ND ug/L		1.0	1		10/30/13 14:47	108-86-1	
Bromochloromethane	ND ug/L		1.0	1		10/30/13 14:47	74-97-5	
Bromodichloromethane	ND ug/L		1.0	1		10/30/13 14:47	75-27-4	
Bromoform	ND ug/L		1.0	1		10/30/13 14:47	75-25-2	
Bromomethane	ND ug/L		5.0	1		10/30/13 14:47	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		10/30/13 14:47	78-93-3	
n-Butylbenzene	ND ug/L		1.0	1		10/30/13 14:47	104-51-8	
sec-Butylbenzene	ND ug/L		1.0	1		10/30/13 14:47	135-98-8	
tert-Butylbenzene	ND ug/L		1.0	1		10/30/13 14:47	98-06-6	
Carbon disulfide	ND ug/L		5.0	1		10/30/13 14:47	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		10/30/13 14:47	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		10/30/13 14:47	108-90-7	
Chloroethane	ND ug/L		1.0	1		10/30/13 14:47	75-00-3	
Chloroform	ND ug/L		1.0	1		10/30/13 14:47	67-66-3	
Chloromethane	ND ug/L		1.0	1		10/30/13 14:47	74-87-3	
2-Chlorotoluene	ND ug/L		1.0	1		10/30/13 14:47	95-49-8	
4-Chlorotoluene	ND ug/L		1.0	1		10/30/13 14:47	106-43-4	
1,2-Dibromo-3-chloropropane	ND ug/L		2.5	1		10/30/13 14:47	96-12-8	
Dibromochloromethane	ND ug/L		1.0	1		10/30/13 14:47	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		10/30/13 14:47	106-93-4	
Dibromomethane	ND ug/L		1.0	1		10/30/13 14:47	74-95-3	
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 14:47	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 14:47	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 14:47	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	1		10/30/13 14:47	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	1		10/30/13 14:47	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/30/13 14:47	107-06-2	
1,2-Dichloroethene (Total)	ND ug/L		1.0	1		10/30/13 14:47	540-59-0	
1,1-Dichloroethene	ND ug/L		1.0	1		10/30/13 14:47	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 14:47	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 14:47	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 14:47	78-87-5	
1,3-Dichloropropane	ND ug/L		1.0	1		10/30/13 14:47	142-28-9	
2,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 14:47	594-20-7	
1,1-Dichloropropene	ND ug/L		1.0	1		10/30/13 14:47	563-58-6	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 14:47	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 14:47	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		10/30/13 14:47	100-41-4	
Hexachloro-1,3-butadiene	ND ug/L		1.0	1		10/30/13 14:47	87-68-3	
2-Hexanone	ND ug/L		10.0	1		10/30/13 14:47	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/30/13 14:47	98-82-8	
p-Isopropyltoluene	ND ug/L		1.0	1		10/30/13 14:47	99-87-6	

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: BAPURGE-W-10242 Lab ID: **60156193002** Collected: 10/24/13 08:10 Received: 10/25/13 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND	ug/L	1.0	1		10/30/13 14:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/30/13 14:47	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		10/30/13 14:47	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		10/30/13 14:47	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		10/30/13 14:47	103-65-1	
Styrene	ND	ug/L	1.0	1		10/30/13 14:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/30/13 14:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/30/13 14:47	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/30/13 14:47	127-18-4	
Toluene	ND	ug/L	1.0	1		10/30/13 14:47	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		10/30/13 14:47	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		10/30/13 14:47	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/30/13 14:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/30/13 14:47	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/30/13 14:47	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/30/13 14:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		10/30/13 14:47	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		10/30/13 14:47	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		10/30/13 14:47	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		10/30/13 14:47	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/30/13 14:47	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101 %		80-120	1		10/30/13 14:47	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		80-120	1		10/30/13 14:47	17060-07-0	
Toluene-d8 (S)	99 %		80-120	1		10/30/13 14:47	2037-26-5	
Preservation pH	7.0		0.10	1		10/30/13 14:47		
353.2 Nitrogen, NO₂/NO₃ unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	7.0	mg/L		0.50	5		10/25/13 15:36	

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: CNPURGE-W-10243	Lab ID: 60156193003	Collected: 10/24/13 08:20	Received: 10/25/13 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND ug/L		0.030	1	11/05/13 17:30	11/05/13 22:35	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/30/13 15:02	67-64-1	
Benzene	ND ug/L		1.0	1		10/30/13 15:02	71-43-2	
Bromobenzene	ND ug/L		1.0	1		10/30/13 15:02	108-86-1	
Bromochloromethane	ND ug/L		1.0	1		10/30/13 15:02	74-97-5	
Bromodichloromethane	ND ug/L		1.0	1		10/30/13 15:02	75-27-4	
Bromoform	ND ug/L		1.0	1		10/30/13 15:02	75-25-2	
Bromomethane	ND ug/L		5.0	1		10/30/13 15:02	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		10/30/13 15:02	78-93-3	
n-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:02	104-51-8	
sec-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:02	135-98-8	
tert-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:02	98-06-6	
Carbon disulfide	ND ug/L		5.0	1		10/30/13 15:02	75-15-0	
Carbon tetrachloride	2.1 ug/L		1.0	1		10/30/13 15:02	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		10/30/13 15:02	108-90-7	
Chloroethane	ND ug/L		1.0	1		10/30/13 15:02	75-00-3	
Chloroform	ND ug/L		1.0	1		10/30/13 15:02	67-66-3	
Chloromethane	ND ug/L		1.0	1		10/30/13 15:02	74-87-3	
2-Chlorotoluene	ND ug/L		1.0	1		10/30/13 15:02	95-49-8	
4-Chlorotoluene	ND ug/L		1.0	1		10/30/13 15:02	106-43-4	
1,2-Dibromo-3-chloropropane	ND ug/L		2.5	1		10/30/13 15:02	96-12-8	
Dibromochloromethane	ND ug/L		1.0	1		10/30/13 15:02	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		10/30/13 15:02	106-93-4	
Dibromomethane	ND ug/L		1.0	1		10/30/13 15:02	74-95-3	
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:02	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:02	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:02	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	1		10/30/13 15:02	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	1		10/30/13 15:02	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/30/13 15:02	107-06-2	
1,2-Dichloroethene (Total)	ND ug/L		1.0	1		10/30/13 15:02	540-59-0	
1,1-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:02	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:02	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:02	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:02	78-87-5	
1,3-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:02	142-28-9	
2,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:02	594-20-7	
1,1-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:02	563-58-6	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:02	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:02	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		10/30/13 15:02	100-41-4	
Hexachloro-1,3-butadiene	ND ug/L		1.0	1		10/30/13 15:02	87-68-3	
2-Hexanone	ND ug/L		10.0	1		10/30/13 15:02	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/30/13 15:02	98-82-8	
p-Isopropyltoluene	ND ug/L		1.0	1		10/30/13 15:02	99-87-6	

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: CNPURGE-W-10243	Lab ID: 60156193003	Collected: 10/24/13 08:20	Received: 10/25/13 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND ug/L		1.0	1		10/30/13 15:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/30/13 15:02	108-10-1	
Methyl-tert-butyl ether	ND ug/L		1.0	1		10/30/13 15:02	1634-04-4	
Naphthalene	ND ug/L		10.0	1		10/30/13 15:02	91-20-3	
n-Propylbenzene	ND ug/L		1.0	1		10/30/13 15:02	103-65-1	
Styrene	ND ug/L		1.0	1		10/30/13 15:02	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		1.0	1		10/30/13 15:02	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/30/13 15:02	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		10/30/13 15:02	127-18-4	
Toluene	ND ug/L		1.0	1		10/30/13 15:02	108-88-3	
1,2,3-Trichlorobenzene	ND ug/L		1.0	1		10/30/13 15:02	87-61-6	
1,2,4-Trichlorobenzene	ND ug/L		1.0	1		10/30/13 15:02	120-82-1	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/30/13 15:02	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/30/13 15:02	79-00-5	
Trichloroethene	ND ug/L		1.0	1		10/30/13 15:02	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		10/30/13 15:02	75-69-4	
1,2,3-Trichloropropane	ND ug/L		2.5	1		10/30/13 15:02	96-18-4	
1,2,4-Trimethylbenzene	ND ug/L		1.0	1		10/30/13 15:02	95-63-6	
1,3,5-Trimethylbenzene	ND ug/L		1.0	1		10/30/13 15:02	108-67-8	
Vinyl chloride	ND ug/L		1.0	1		10/30/13 15:02	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/30/13 15:02	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	104 %		80-120	1		10/30/13 15:02	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		80-120	1		10/30/13 15:02	17060-07-0	
Toluene-d8 (S)	99 %		80-120	1		10/30/13 15:02	2037-26-5	
Preservation pH	7.0		0.10	1		10/30/13 15:02		
353.2 Nitrogen, NO₂/NO₃ unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	3.8 mg/L		0.10	1		10/25/13 15:36		

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: EVPURGE-W-10244	Lab ID: 60156193004	Collected: 10/24/13 08:30	Received: 10/25/13 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND ug/L		0.030	1	11/05/13 17:30	11/05/13 22:47	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/30/13 15:17	67-64-1	
Benzene	ND ug/L		1.0	1		10/30/13 15:17	71-43-2	
Bromobenzene	ND ug/L		1.0	1		10/30/13 15:17	108-86-1	
Bromochloromethane	ND ug/L		1.0	1		10/30/13 15:17	74-97-5	
Bromodichloromethane	ND ug/L		1.0	1		10/30/13 15:17	75-27-4	
Bromoform	ND ug/L		1.0	1		10/30/13 15:17	75-25-2	
Bromomethane	ND ug/L		5.0	1		10/30/13 15:17	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		10/30/13 15:17	78-93-3	
n-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:17	104-51-8	
sec-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:17	135-98-8	
tert-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:17	98-06-6	
Carbon disulfide	ND ug/L		5.0	1		10/30/13 15:17	75-15-0	
Carbon tetrachloride	2.1 ug/L		1.0	1		10/30/13 15:17	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		10/30/13 15:17	108-90-7	
Chloroethane	ND ug/L		1.0	1		10/30/13 15:17	75-00-3	
Chloroform	ND ug/L		1.0	1		10/30/13 15:17	67-66-3	
Chloromethane	ND ug/L		1.0	1		10/30/13 15:17	74-87-3	
2-Chlorotoluene	ND ug/L		1.0	1		10/30/13 15:17	95-49-8	
4-Chlorotoluene	ND ug/L		1.0	1		10/30/13 15:17	106-43-4	
1,2-Dibromo-3-chloropropane	ND ug/L		2.5	1		10/30/13 15:17	96-12-8	
Dibromochloromethane	ND ug/L		1.0	1		10/30/13 15:17	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		10/30/13 15:17	106-93-4	
Dibromomethane	ND ug/L		1.0	1		10/30/13 15:17	74-95-3	
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:17	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:17	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:17	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	1		10/30/13 15:17	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	1		10/30/13 15:17	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/30/13 15:17	107-06-2	
1,2-Dichloroethene (Total)	ND ug/L		1.0	1		10/30/13 15:17	540-59-0	
1,1-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:17	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:17	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:17	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:17	78-87-5	
1,3-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:17	142-28-9	
2,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:17	594-20-7	
1,1-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:17	563-58-6	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:17	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:17	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		10/30/13 15:17	100-41-4	
Hexachloro-1,3-butadiene	ND ug/L		1.0	1		10/30/13 15:17	87-68-3	
2-Hexanone	ND ug/L		10.0	1		10/30/13 15:17	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/30/13 15:17	98-82-8	
p-Isopropyltoluene	ND ug/L		1.0	1		10/30/13 15:17	99-87-6	

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: EVPURGE-W-10244	Lab ID: 60156193004	Collected: 10/24/13 08:30	Received: 10/25/13 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND	ug/L	1.0	1		10/30/13 15:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/30/13 15:17	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		10/30/13 15:17	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		10/30/13 15:17	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		10/30/13 15:17	103-65-1	
Styrene	ND	ug/L	1.0	1		10/30/13 15:17	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/30/13 15:17	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/30/13 15:17	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/30/13 15:17	127-18-4	
Toluene	ND	ug/L	1.0	1		10/30/13 15:17	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		10/30/13 15:17	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		10/30/13 15:17	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/30/13 15:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/30/13 15:17	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/30/13 15:17	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/30/13 15:17	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		10/30/13 15:17	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		10/30/13 15:17	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		10/30/13 15:17	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		10/30/13 15:17	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/30/13 15:17	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102 %		80-120	1		10/30/13 15:17	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		80-120	1		10/30/13 15:17	17060-07-0	
Toluene-d8 (S)	99 %		80-120	1		10/30/13 15:17	2037-26-5	
Preservation pH	7.0		0.10	1		10/30/13 15:17		
353.2 Nitrogen, NO₂/NO₃ unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	13.3	mg/L		1.0	10		10/25/13 15:15	

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: MRPURGE-W-10245	Lab ID: 60156193005	Collected: 10/24/13 08:40	Received: 10/25/13 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND ug/L		0.030	1	11/05/13 17:30	11/05/13 22:58	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/30/13 15:31	67-64-1	
Benzene	ND ug/L		1.0	1		10/30/13 15:31	71-43-2	
Bromobenzene	ND ug/L		1.0	1		10/30/13 15:31	108-86-1	
Bromochloromethane	ND ug/L		1.0	1		10/30/13 15:31	74-97-5	
Bromodichloromethane	ND ug/L		1.0	1		10/30/13 15:31	75-27-4	
Bromoform	ND ug/L		1.0	1		10/30/13 15:31	75-25-2	
Bromomethane	ND ug/L		5.0	1		10/30/13 15:31	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		10/30/13 15:31	78-93-3	
n-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:31	104-51-8	
sec-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:31	135-98-8	
tert-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:31	98-06-6	
Carbon disulfide	ND ug/L		5.0	1		10/30/13 15:31	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		10/30/13 15:31	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		10/30/13 15:31	108-90-7	
Chloroethane	ND ug/L		1.0	1		10/30/13 15:31	75-00-3	
Chloroform	ND ug/L		1.0	1		10/30/13 15:31	67-66-3	
Chloromethane	ND ug/L		1.0	1		10/30/13 15:31	74-87-3	
2-Chlorotoluene	ND ug/L		1.0	1		10/30/13 15:31	95-49-8	
4-Chlorotoluene	ND ug/L		1.0	1		10/30/13 15:31	106-43-4	
1,2-Dibromo-3-chloropropane	ND ug/L		2.5	1		10/30/13 15:31	96-12-8	
Dibromochloromethane	ND ug/L		1.0	1		10/30/13 15:31	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		10/30/13 15:31	106-93-4	
Dibromomethane	ND ug/L		1.0	1		10/30/13 15:31	74-95-3	
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:31	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:31	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:31	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	1		10/30/13 15:31	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	1		10/30/13 15:31	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/30/13 15:31	107-06-2	
1,2-Dichloroethene (Total)	ND ug/L		1.0	1		10/30/13 15:31	540-59-0	
1,1-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:31	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:31	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:31	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:31	78-87-5	
1,3-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:31	142-28-9	
2,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:31	594-20-7	
1,1-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:31	563-58-6	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:31	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:31	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		10/30/13 15:31	100-41-4	
Hexachloro-1,3-butadiene	ND ug/L		1.0	1		10/30/13 15:31	87-68-3	
2-Hexanone	ND ug/L		10.0	1		10/30/13 15:31	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/30/13 15:31	98-82-8	
p-Isopropyltoluene	ND ug/L		1.0	1		10/30/13 15:31	99-87-6	

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: MRPURGE-W-10245 Lab ID: **60156193005** Collected: 10/24/13 08:40 Received: 10/25/13 08:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND	ug/L	1.0	1		10/30/13 15:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/30/13 15:31	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		10/30/13 15:31	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		10/30/13 15:31	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		10/30/13 15:31	103-65-1	
Styrene	ND	ug/L	1.0	1		10/30/13 15:31	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		10/30/13 15:31	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/30/13 15:31	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/30/13 15:31	127-18-4	
Toluene	ND	ug/L	1.0	1		10/30/13 15:31	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		10/30/13 15:31	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		10/30/13 15:31	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/30/13 15:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/30/13 15:31	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/30/13 15:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		10/30/13 15:31	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		10/30/13 15:31	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		10/30/13 15:31	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		10/30/13 15:31	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		10/30/13 15:31	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/30/13 15:31	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100 %		80-120	1		10/30/13 15:31	460-00-4	
1,2-Dichloroethane-d4 (S)	104 %		80-120	1		10/30/13 15:31	17060-07-0	
Toluene-d8 (S)	99 %		80-120	1		10/30/13 15:31	2037-26-5	
Preservation pH	7.0		0.10	1		10/30/13 15:31		
353.2 Nitrogen, NO₂/NO₃ unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	4.7	mg/L		0.20	2		10/25/13 15:37	

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: RAPURGE-W-10246	Lab ID: 60156193006	Collected: 10/24/13 08:50	Received: 10/25/13 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
504 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1							
1,2-Dibromoethane (EDB)	ND ug/L		0.030	1	11/05/13 17:30	11/05/13 23:09	106-93-4	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND ug/L		10.0	1		10/30/13 15:45	67-64-1	
Benzene	ND ug/L		1.0	1		10/30/13 15:45	71-43-2	
Bromobenzene	ND ug/L		1.0	1		10/30/13 15:45	108-86-1	
Bromochloromethane	ND ug/L		1.0	1		10/30/13 15:45	74-97-5	
Bromodichloromethane	ND ug/L		1.0	1		10/30/13 15:45	75-27-4	
Bromoform	ND ug/L		1.0	1		10/30/13 15:45	75-25-2	
Bromomethane	ND ug/L		5.0	1		10/30/13 15:45	74-83-9	
2-Butanone (MEK)	ND ug/L		10.0	1		10/30/13 15:45	78-93-3	
n-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:45	104-51-8	
sec-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:45	135-98-8	
tert-Butylbenzene	ND ug/L		1.0	1		10/30/13 15:45	98-06-6	
Carbon disulfide	ND ug/L		5.0	1		10/30/13 15:45	75-15-0	
Carbon tetrachloride	ND ug/L		1.0	1		10/30/13 15:45	56-23-5	
Chlorobenzene	ND ug/L		1.0	1		10/30/13 15:45	108-90-7	
Chloroethane	ND ug/L		1.0	1		10/30/13 15:45	75-00-3	
Chloroform	ND ug/L		1.0	1		10/30/13 15:45	67-66-3	
Chloromethane	ND ug/L		1.0	1		10/30/13 15:45	74-87-3	
2-Chlorotoluene	ND ug/L		1.0	1		10/30/13 15:45	95-49-8	
4-Chlorotoluene	ND ug/L		1.0	1		10/30/13 15:45	106-43-4	
1,2-Dibromo-3-chloropropane	ND ug/L		2.5	1		10/30/13 15:45	96-12-8	
Dibromochloromethane	ND ug/L		1.0	1		10/30/13 15:45	124-48-1	
1,2-Dibromoethane (EDB)	ND ug/L		1.0	1		10/30/13 15:45	106-93-4	
Dibromomethane	ND ug/L		1.0	1		10/30/13 15:45	74-95-3	
1,2-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:45	95-50-1	
1,3-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:45	541-73-1	
1,4-Dichlorobenzene	ND ug/L		1.0	1		10/30/13 15:45	106-46-7	
Dichlorodifluoromethane	ND ug/L		1.0	1		10/30/13 15:45	75-71-8	
1,1-Dichloroethane	ND ug/L		1.0	1		10/30/13 15:45	75-34-3	
1,2-Dichloroethane	ND ug/L		1.0	1		10/30/13 15:45	107-06-2	
1,2-Dichloroethene (Total)	ND ug/L		1.0	1		10/30/13 15:45	540-59-0	
1,1-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:45	75-35-4	
cis-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:45	156-59-2	
trans-1,2-Dichloroethene	ND ug/L		1.0	1		10/30/13 15:45	156-60-5	
1,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:45	78-87-5	
1,3-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:45	142-28-9	
2,2-Dichloropropane	ND ug/L		1.0	1		10/30/13 15:45	594-20-7	
1,1-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:45	563-58-6	
cis-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:45	10061-01-5	
trans-1,3-Dichloropropene	ND ug/L		1.0	1		10/30/13 15:45	10061-02-6	
Ethylbenzene	ND ug/L		1.0	1		10/30/13 15:45	100-41-4	
Hexachloro-1,3-butadiene	ND ug/L		1.0	1		10/30/13 15:45	87-68-3	
2-Hexanone	ND ug/L		10.0	1		10/30/13 15:45	591-78-6	
Isopropylbenzene (Cumene)	ND ug/L		1.0	1		10/30/13 15:45	98-82-8	
p-Isopropyltoluene	ND ug/L		1.0	1		10/30/13 15:45	99-87-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: KS Waste Water
Pace Project No.: 60156193

Sample: RAPURGE-W-10246	Lab ID: 60156193006	Collected: 10/24/13 08:50	Received: 10/25/13 08:15	Matrix: Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Methylene chloride	ND ug/L		1.0	1		10/30/13 15:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND ug/L		10.0	1		10/30/13 15:45	108-10-1	
Methyl-tert-butyl ether	ND ug/L		1.0	1		10/30/13 15:45	1634-04-4	
Naphthalene	ND ug/L		10.0	1		10/30/13 15:45	91-20-3	
n-Propylbenzene	ND ug/L		1.0	1		10/30/13 15:45	103-65-1	
Styrene	ND ug/L		1.0	1		10/30/13 15:45	100-42-5	
1,1,1,2-Tetrachloroethane	ND ug/L		1.0	1		10/30/13 15:45	630-20-6	
1,1,2,2-Tetrachloroethane	ND ug/L		1.0	1		10/30/13 15:45	79-34-5	
Tetrachloroethene	ND ug/L		1.0	1		10/30/13 15:45	127-18-4	
Toluene	ND ug/L		1.0	1		10/30/13 15:45	108-88-3	
1,2,3-Trichlorobenzene	ND ug/L		1.0	1		10/30/13 15:45	87-61-6	
1,2,4-Trichlorobenzene	ND ug/L		1.0	1		10/30/13 15:45	120-82-1	
1,1,1-Trichloroethane	ND ug/L		1.0	1		10/30/13 15:45	71-55-6	
1,1,2-Trichloroethane	ND ug/L		1.0	1		10/30/13 15:45	79-00-5	
Trichloroethene	ND ug/L		1.0	1		10/30/13 15:45	79-01-6	
Trichlorofluoromethane	ND ug/L		1.0	1		10/30/13 15:45	75-69-4	
1,2,3-Trichloropropane	ND ug/L		2.5	1		10/30/13 15:45	96-18-4	
1,2,4-Trimethylbenzene	ND ug/L		1.0	1		10/30/13 15:45	95-63-6	
1,3,5-Trimethylbenzene	ND ug/L		1.0	1		10/30/13 15:45	108-67-8	
Vinyl chloride	ND ug/L		1.0	1		10/30/13 15:45	75-01-4	
Xylene (Total)	ND ug/L		3.0	1		10/30/13 15:45	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100 %		80-120	1		10/30/13 15:45	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		80-120	1		10/30/13 15:45	17060-07-0	
Toluene-d8 (S)	101 %		80-120	1		10/30/13 15:45	2037-26-5	
Preservation pH	7.0		0.10	1		10/30/13 15:45		
353.2 Nitrogen, NO₂/NO₃ unpres	Analytical Method: EPA 353.2							
Nitrogen, Nitrate	4.9 mg/L		0.20	2		10/25/13 15:38		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: KS Waste Water
Pace Project No.: 60156193

QC Batch: MSV/57337 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 7 day
Associated Lab Samples: 60156193001, 60156193002, 60156193003, 60156193004, 60156193005, 60156193006

METHOD BLANK: 1280651 Matrix: Water

Associated Lab Samples: 60156193001, 60156193002, 60156193003, 60156193004, 60156193005, 60156193006

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	10/30/13 10:57	
1,1,1-Trichloroethane	ug/L	ND	1.0	10/30/13 10:57	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/30/13 10:57	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/30/13 10:57	
1,1-Dichloroethane	ug/L	ND	1.0	10/30/13 10:57	
1,1-Dichloroethene	ug/L	ND	1.0	10/30/13 10:57	
1,1-Dichloropropene	ug/L	ND	1.0	10/30/13 10:57	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	10/30/13 10:57	
1,2,3-Trichloropropane	ug/L	ND	2.5	10/30/13 10:57	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	10/30/13 10:57	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	10/30/13 10:57	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.5	10/30/13 10:57	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	10/30/13 10:57	
1,2-Dichlorobenzene	ug/L	ND	1.0	10/30/13 10:57	
1,2-Dichloroethane	ug/L	ND	1.0	10/30/13 10:57	
1,2-Dichloroethene (Total)	ug/L	ND	1.0	10/30/13 10:57	
1,2-Dichloropropane	ug/L	ND	1.0	10/30/13 10:57	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	10/30/13 10:57	
1,3-Dichlorobenzene	ug/L	ND	1.0	10/30/13 10:57	
1,3-Dichloropropane	ug/L	ND	1.0	10/30/13 10:57	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/30/13 10:57	
2,2-Dichloropropane	ug/L	ND	1.0	10/30/13 10:57	
2-Butanone (MEK)	ug/L	ND	10.0	10/30/13 10:57	
2-Chlorotoluene	ug/L	ND	1.0	10/30/13 10:57	
2-Hexanone	ug/L	ND	10.0	10/30/13 10:57	
4-Chlorotoluene	ug/L	ND	1.0	10/30/13 10:57	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/30/13 10:57	
Acetone	ug/L	ND	10.0	10/30/13 10:57	
Benzene	ug/L	ND	1.0	10/30/13 10:57	
Bromobenzene	ug/L	ND	1.0	10/30/13 10:57	
Bromochloromethane	ug/L	ND	1.0	10/30/13 10:57	
Bromodichloromethane	ug/L	ND	1.0	10/30/13 10:57	
Bromoform	ug/L	ND	1.0	10/30/13 10:57	
Bromomethane	ug/L	ND	5.0	10/30/13 10:57	
Carbon disulfide	ug/L	ND	5.0	10/30/13 10:57	
Carbon tetrachloride	ug/L	ND	1.0	10/30/13 10:57	
Chlorobenzene	ug/L	ND	1.0	10/30/13 10:57	
Chloroethane	ug/L	ND	1.0	10/30/13 10:57	
Chloroform	ug/L	ND	1.0	10/30/13 10:57	
Chloromethane	ug/L	ND	1.0	10/30/13 10:57	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/30/13 10:57	
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/30/13 10:57	
Dibromochloromethane	ug/L	ND	1.0	10/30/13 10:57	

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QUALITY CONTROL DATA

Project: KS Waste Water
Pace Project No.: 60156193

METHOD BLANK: 1280651 Matrix: Water

Associated Lab Samples: 60156193001, 60156193002, 60156193003, 60156193004, 60156193005, 60156193006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/L	ND	1.0	10/30/13 10:57	
Dichlorodifluoromethane	ug/L	ND	1.0	10/30/13 10:57	
Ethylbenzene	ug/L	ND	1.0	10/30/13 10:57	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	10/30/13 10:57	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	10/30/13 10:57	
Methyl-tert-butyl ether	ug/L	ND	1.0	10/30/13 10:57	
Methylene chloride	ug/L	ND	1.0	10/30/13 10:57	
n-Butylbenzene	ug/L	ND	1.0	10/30/13 10:57	
n-Propylbenzene	ug/L	ND	1.0	10/30/13 10:57	
Naphthalene	ug/L	ND	10.0	10/30/13 10:57	
p-Isopropyltoluene	ug/L	ND	1.0	10/30/13 10:57	
sec-Butylbenzene	ug/L	ND	1.0	10/30/13 10:57	
Styrene	ug/L	ND	1.0	10/30/13 10:57	
tert-Butylbenzene	ug/L	ND	1.0	10/30/13 10:57	
Tetrachloroethene	ug/L	ND	1.0	10/30/13 10:57	
Toluene	ug/L	ND	1.0	10/30/13 10:57	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/30/13 10:57	
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/30/13 10:57	
Trichloroethene	ug/L	ND	1.0	10/30/13 10:57	
Trichlorofluoromethane	ug/L	ND	1.0	10/30/13 10:57	
Vinyl chloride	ug/L	ND	1.0	10/30/13 10:57	
Xylene (Total)	ug/L	ND	3.0	10/30/13 10:57	
1,2-Dichloroethane-d4 (S)	%	97	80-120	10/30/13 10:57	
4-Bromofluorobenzene (S)	%	99	80-120	10/30/13 10:57	
Toluene-d8 (S)	%	101	80-120	10/30/13 10:57	

LABORATORY CONTROL SAMPLE: 1280652

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.3	107	79-121	
1,1,1-Trichloroethane	ug/L	20	21.0	105	75-124	
1,1,2,2-Tetrachloroethane	ug/L	20	20.3	101	73-120	
1,1,2-Trichloroethane	ug/L	20	20.3	102	76-120	
1,1-Dichloroethane	ug/L	20	19.3	97	73-120	
1,1-Dichloroethene	ug/L	20	20.3	101	70-127	
1,1-Dichloropropene	ug/L	20	21.2	106	79-124	
1,2,3-Trichlorobenzene	ug/L	20	21.3	106	68-130	
1,2,3-Trichloropropane	ug/L	20	21.5	107	72-124	
1,2,4-Trichlorobenzene	ug/L	20	20.9	104	73-125	
1,2,4-Trimethylbenzene	ug/L	20	21.2	106	76-120	
1,2-Dibromo-3-chloropropane	ug/L	20	21.8	109	68-126	
1,2-Dibromoethane (EDB)	ug/L	20	20.4	102	79-121	
1,2-Dichlorobenzene	ug/L	20	20.3	101	79-120	
1,2-Dichloroethane	ug/L	20	20.6	103	72-122	
1,2-Dichloroethene (Total)	ug/L	40	40.4	101	77-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: KS Waste Water

Pace Project No.: 60156193

LABORATORY CONTROL SAMPLE: 1280652

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloropropane	ug/L	20	21.1	106	77-120	
1,3,5-Trimethylbenzene	ug/L	20	21.2	106	75-120	
1,3-Dichlorobenzene	ug/L	20	20.1	100	80-120	
1,3-Dichloropropane	ug/L	20	19.8	99	76-120	
1,4-Dichlorobenzene	ug/L	20	20.1	100	80-120	
2,2-Dichloropropane	ug/L	20	13.3	67	52-135	
2-Butanone (MEK)	ug/L	100	101	101	69-124	
2-Chlorotoluene	ug/L	20	20.3	102	78-120	
2-Hexanone	ug/L	100	100	100	70-125	
4-Chlorotoluene	ug/L	20	20.0	100	80-120	
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	72-123	
Acetone	ug/L	100	93.5	93	60-126	
Benzene	ug/L	20	20.2	101	73-122	
Bromobenzene	ug/L	20	20.3	101	79-120	
Bromochloromethane	ug/L	20	19.6	98	76-125	
Bromodichloromethane	ug/L	20	20.9	105	73-120	
Bromoform	ug/L	20	20.0	100	74-120	
Bromomethane	ug/L	20	19.9	99	40-146	
Carbon disulfide	ug/L	20	21.4	107	62-125	
Carbon tetrachloride	ug/L	20	24.6	123	73-125	
Chlorobenzene	ug/L	20	20.7	104	80-120	
Chloroethane	ug/L	20	18.9	94	56-159	
Chloroform	ug/L	20	20.5	102	76-120	
Chloromethane	ug/L	20	17.5	87	40-148	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	69-120	
cis-1,3-Dichloropropene	ug/L	20	20.7	104	76-120	
Dibromochloromethane	ug/L	20	21.3	107	79-121	
Dibromomethane	ug/L	20	19.1	95	77-120	
Dichlorodifluoromethane	ug/L	20	14.7	73	40-141	
Ethylbenzene	ug/L	20	20.7	103	76-123	
Hexachloro-1,3-butadiene	ug/L	20	21.8	109	69-125	
Isopropylbenzene (Cumene)	ug/L	20	22.5	112	80-130	
Methyl-tert-butyl ether	ug/L	20	16.6	83	67-128	
Methylene chloride	ug/L	20	21.5	107	71-123	
n-Butylbenzene	ug/L	20	20.6	103	77-124	
n-Propylbenzene	ug/L	20	19.9	99	78-120	
Naphthalene	ug/L	20	22.4	112	64-127	
p-Isopropyltoluene	ug/L	20	21.0	105	78-120	
sec-Butylbenzene	ug/L	20	21.1	105	77-122	
Styrene	ug/L	20	20.1	100	79-120	
tert-Butylbenzene	ug/L	20	20.9	104	76-123	
Tetrachloroethene	ug/L	20	20.1	101	79-122	
Toluene	ug/L	20	20.2	101	76-122	
trans-1,2-Dichloroethene	ug/L	20	20.6	103	78-126	
trans-1,3-Dichloropropene	ug/L	20	22.6	113	79-124	
Trichloroethene	ug/L	20	19.8	99	76-120	
Trichlorofluoromethane	ug/L	20	18.3	91	69-133	
Vinyl chloride	ug/L	20	17.7	89	57-140	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: KS Waste Water

Pace Project No.: 60156193

LABORATORY CONTROL SAMPLE: 1280652

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	61.4	102	76-122	
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			101	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: KS Waste Water

Pace Project No.: 60156193

QC Batch: OEXT/41322 Analysis Method: EPA 504.1

QC Batch Method: EPA 504.1 Analysis Description: GCS 504 EDB DBCP

Associated Lab Samples: 60156193001, 60156193002, 60156193003, 60156193004, 60156193005, 60156193006

METHOD BLANK: 1283506 Matrix: Water

Associated Lab Samples: 60156193001, 60156193002, 60156193003, 60156193004, 60156193005, 60156193006

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
1,2-Dibromoethane (EDB)	ug/L	ND	0.030	11/05/13 21:38	

LABORATORY CONTROL SAMPLE & LCSD: 1283507 1283508

Parameter	Units	Spike	LCS	LCSD	LCS	LCSD	% Rec	RPD	Max	Qualifiers
		Conc.	Result	Result	% Rec	% Rec	Limits			
1,2-Dibromoethane (EDB)	ug/L	.25	0.27	0.25	107	98	70-130	9	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: KS Waste Water
Pace Project No.: 60156193

QC Batch:	WETA/26834	Analysis Method:	EPA 353.2
QC Batch Method:	EPA 353.2	Analysis Description:	353.2 Nitrate + Nitrite, Unpres.
Associated Lab Samples: 60156193001, 60156193002, 60156193003, 60156193004, 60156193005, 60156193006			

METHOD BLANK: 1278569 Matrix: Water

Associated Lab Samples: 60156193001, 60156193002, 60156193003, 60156193004, 60156193005, 60156193006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	10/25/13 15:03	

LABORATORY CONTROL SAMPLE: 1278570

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.6	1.7	108	85-115	

MATRIX SPIKE SAMPLE: 1278581

Parameter	Units	60156197004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	1.6	1.6	101	85-115	

MATRIX SPIKE SAMPLE: 1278772

Parameter	Units	60156191001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.5	1.6	3.0	95	85-115	

SAMPLE DUPLICATE: 1278582

Parameter	Units	60156240001 Result	Dup Result	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND	20	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: KS Waste Water

Pace Project No.: 60156193

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/57337

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

Batch: OEXT/41322

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: KS Waste Water
Pace Project No.: 60156193

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156193001	AGPURGE-W-10241	EPA 504.1	OEXT/41322	EPA 504.1	GCSV/15742
60156193002	BAPURGE-W-10242	EPA 504.1	OEXT/41322	EPA 504.1	GCSV/15742
60156193003	CNPURGE-W-10243	EPA 504.1	OEXT/41322	EPA 504.1	GCSV/15742
60156193004	EVPURGE-W-10244	EPA 504.1	OEXT/41322	EPA 504.1	GCSV/15742
60156193005	MRPURGE-W-10245	EPA 504.1	OEXT/41322	EPA 504.1	GCSV/15742
60156193006	RAPURGE-W-10246	EPA 504.1	OEXT/41322	EPA 504.1	GCSV/15742
60156193001	AGPURGE-W-10241	EPA 5030B/8260	MSV/57337		
60156193002	BAPURGE-W-10242	EPA 5030B/8260	MSV/57337		
60156193003	CNPURGE-W-10243	EPA 5030B/8260	MSV/57337		
60156193004	EVPURGE-W-10244	EPA 5030B/8260	MSV/57337		
60156193005	MRPURGE-W-10245	EPA 5030B/8260	MSV/57337		
60156193006	RAPURGE-W-10246	EPA 5030B/8260	MSV/57337		
60156193001	AGPURGE-W-10241	EPA 353.2	WETA/26834		
60156193002	BAPURGE-W-10242	EPA 353.2	WETA/26834		
60156193003	CNPURGE-W-10243	EPA 353.2	WETA/26834		
60156193004	EVPURGE-W-10244	EPA 353.2	WETA/26834		
60156193005	MRPURGE-W-10245	EPA 353.2	WETA/26834		
60156193006	RAPURGE-W-10246	EPA 353.2	WETA/26834		

REPORT OF LABORATORY ANALYSIS

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60156193

 Client Name: TCW Const.

 Courier: Fed Ex UPS USPS Client Commercial Pace Other

 Tracking #: 7969 7691 8459 Pace Shipping Label Used? Yes No

Optional
Proj Due Date:
Proj Name:

 Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes No

 Packing Material: Bubble Wrap Bubble Bags Foam None Other

 Thermometer Used: T-112 T-194

 Type of Ice: Wet Blue None Samples received on ice, cooling process has begun.
 (circle one)

 Cooler Temperature: 0.5

 Date and initials of person examining
 contents: DW 10/25/13 935

Temperature should be above freezing to 6°C

Chain of Custody present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody filled out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler name & signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples arrived within holding time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time analyses (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<u>NO3</u> <u>10-25-13</u>
Rush Turn Around Time requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace containers used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Filtered volume received for dissolved tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12.
Sample labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Includes date/time/ID/analyses	Matrix: <u>water</u>	13.
All containers needing preservation have been checked	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed <u>MH</u>
Trip Blank present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank lot # (if purchased): <u>MH</u>		15.
Headspace in VOA vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Project sampled in USDA Regulated Area:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17. List State.

 Client Notification/ Resolution: Copy COC to Client? Y / Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

 Project Manager Review: DW

 Date: 10-25-13

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A

Required Client Information:

Company: TCW CONSTRUCTION

Address: 141 M. STREET

LINCOLN NE 68508

Email To:

Phone: 402-416-7255 Fax:

Requested Due Date/TAT:

Section B

Required Project Information:

Report To: TKAMLER@TCWCONSTRUCTION.COM

Copy To: SURGNIER@PRODIGY.NET

Purchase Order No.: Project Name: KS Waste Water

Project Number:

Section C

Invoice Information:

Attention: TRAVIS KAMLER

Company Name: TCW CONSTRUCTION

Address: 141 M. ST. LINCOLN NE 68508

Pace Quote Reference:

Pace Project Manager: TRUDY GIPSON

Pace Profile #:

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER

UST RCRA OTHER _____

Site Location

KS

STATE:

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Valid Matrix Codes				(see valid codes to left)	SAMPLE CODE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Y/N	Analysis Test	40mL VOC	40mL EDB	250mL NITRATES	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.									
		MATRIX	CODE	DRINKING WATER	DW			WATER	WT	WASTE WATER	WW		#	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other															
		DATE	TIME	DATE	TIME			COMPOSITE START			COMPOSITE END/GRAB																									
1	AGPURGE-W-10241	WW	C	1/16/13		10/24/13	8:00					5	3									2	2	1			1(BPM) 2(DGW) 2(DST) 01									
2	BAPURGE-W-10242	WW	C	9/19/13		10/24/13	8:10					5	3									2	2	1			02									
3	CNPURGE-W-10243	WW	C	9/26/13		10/24/13	8:20					5	3									2	2	1			03									
4	EVPURGE-W-10244	WW	C	5/8/13		10/24/13	8:30					5	3									2	2	1			04									
5	MRPURGE-W-10245	WW	C	5/6/13		10/24/13	8:40					5	3									2	2	1			05									
6	RAPURGE-W-10246	WW	C	10/10/13		10/24/13	8:50					5	3									2	2	1			06									
7																																				
8																																				
9																																				
10																																				
11																																				
12																																				
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION				DATE	TIME	ACCEPTED BY / AFFILIATION				DATE	TIME	SAMPLE CONDITIONS																					
All samples collected from drums containing sampling purge			Travis Kamler / TCW				10/24/13	15:00	<i>T. Kamler / Pace</i>				10/25/13	015	0.5	Y	Y	Y																		
water stored at each site from the 2013 sampling events.																																				
													SAMPLER NAME AND SIGNATURE																							
														PRINT Name of SAMPLER: <i>Travis Kamler</i>																						
														SIGNATURE of SAMPLER: <i>_____</i>							DATE Signed (MM/DD/YY): <i>10/24/13</i>															

Cash - Travis

AGEM 40 N

CITY OF SABETHA
805 MAIN
PO BOX 187
SABETHA KS 66534 785-284-2158

Receipt No: 1.011711 Dec 4, 2013

TCW

WASTEWATER FUND-MISC

Well Water 50.00

Total: 50.00

Cash 50.00

Total Applied: 50.00

Change Tendered: .00

Supplement 2:

**Data Summaries for Verification VOCs Analysis by
TestAmerica Laboratories, Inc.**

ANALYTICAL REPORT

Job Number: 200-18648-1

SDG Number: 18648

Job Description: Centralia (200-18648)

Contract Number: 1E-30401

For:

Argonne National Laboratory
9700 South Cass Avenue
Building 203
Office B-141
Argonne, IL 60439

Attention: Ms. Esther Bowen



Approved for release.
Kirk F Young
Project Manager I
10/10/2013 4:08 PM

Kirk F Young, Project Manager I
30 Community Drive, South Burlington, VT, 05403
(802)660-1990
kirk.young@testamericainc.com
10/10/2013

The test results in this report relate only to sample(s) as received by the laboratory. These test results were derived under a quality system that adheres to the requirements of NELAC. Pursuant to NELAC, this report may not be produced in full without written approval from the laboratory

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CASE NARRATIVE

Client: Argonne National Laboratory

Project: Centralia (200-18648)

Report Number: 200-18648-1

Enclosed is the data set for the referenced project work. With the exceptions noted as flags or footnotes, standard analytical protocols were followed in performing the analytical work and the applied control limits were met.

Calculations were performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

Receipt

The samples were received on 09/27/2013. Documentation of the condition of the samples at the time of their receipt and any exception to the laboratory's Sample Acceptance Policy is documented in the Shipping Documentation section of this submittal. The samples, as received, were not acid preserved. On that basis, the laboratory did provide for the analysis of the samples within seven days of sample collection.

SOM01.2 Volatile Organics (Trace Level Water)

A storage blank was prepared for volatile organics analysis, and stored in association with the storage of the samples. That storage blank, identified as VHBLK01, was carried through the holding period with the samples, and analyzed.

An additional, dilution analysis was performed on sample CNPMP7-W-35823 in order to provide for quantification within the range of calibrated instrument response. Both sets of results for the analysis of sample CNPMP7-W-35823 are included in this submittal.

Each of the analyses associated with the sample set exhibited an acceptable internal standard performance. There was an acceptable recovery of each deuterated monitoring compound (DMC) in the analysis of the method blank associated with the analytical work, and in the analysis of the storage blank associated with the sample set. The analysis of the samples in this sample set did meet the technical acceptance criteria specific to DMC recoveries, although not all DMC recoveries were within the control range in each analysis. The technical acceptance criteria does provide for the recovery of up to three DMCs to fall outside of the control range in the analysis of field samples. Matrix spike and matrix spike duplicate analyses were not performed on samples in this sample set. To varying extent, trace concentrations of bromomethane, methylene chloride, trans-1,2-dichloroethene, and ,4-dichlorobenzene were identified in the analysis of the method blanks associated with the analytical work. The concentration of each target analyte in each analysis was below the established reporting limit, and each analysis did meet the technical acceptance criteria for a compliant method blank analysis. A trace concentration of toluene was identified in the analysis of the storage blank associated with the sample set. The concentration of toluene in that analysis was below the established reporting limit, and the analysis did meet the technical acceptance criteria for a compliant storage blank analysis. Trace concentrations of chloroethane, methylene chloride, trans-1,2-dichloroethene, chloroform, carbon tetrachloride, and

toluene were identified in the analysis of the instrument blank associated with the analytical work. The concentration of each target analyte in that analysis was below the established reporting limit, and the analysis did meet the technical acceptance criteria for a compliant instrument blank analysis. Present in the method blank, instrument blank, and storage blank analyses was a non-target constituent that represents a compound that is related to the DMC formulation. The fact that the presence of this compound is not within the laboratory's control is at issue. The derived results for that compound have been qualified with an "X" qualifier to reflect the source of the contamination.

The responses for each of the target analytes met the relative standard deviation criterion in the initial calibration. The response for each target analyte met the percent difference criterion in the opening/continuing calibration check acquisition. The response for each target analyte met the 50.0 percent difference criterion in each closing calibration check acquisition.

The primary quantitation mass for methylcyclohexane that is specified in the Statement of Work is mass 83. The laboratory did identify a contribution to mass 83 from 1,2-dichloropropane-d₆, one of the deuterated monitoring compounds (DMCs). The laboratory did change the primary quantitation mass assignment to mass 55 for the quantification of methylcyclohexane.

Manual integration was employed in deriving certain of the analytical results. The values that have been derived from manual integration are qualified on the quantitation reports. Extracted ion current profiles for each manual integration are included in the data package, and further documented at the end of this submittal.

DATA REPORTING QUALIFIERS

Client: Argonne National Laboratory

Job Number: 200-18648-1

Sdg Number: 18648

Lab Section	Qualifier	Description
GC/MS VOA	U	Analyzed for but not detected.
	E	Compound concentration exceeds the upper level of the calibration range of the instrument for that specific analysis.
	J	Indicates an Estimated Value for TICs
	J	Indicates an estimated value.
	D	Sample was analyzed at a higher dilution factor.
	X	See case narrative notes for explanation of the 'X' flag
	*	Surrogate exceeds the control limit
	B	The analyte was found in an associated blank, as well as in the sample.

TestAmerica Burlington

30 Community Drive

Suite 11

South Burlington, VT 05403

Phone 802.660.1990 Fax 802.660.1919

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Regulatory Program: DW NPDES RCRA other:

Client Contact		Project Manager: Lorraine LaFreniere			Site Contact: Travis Kamler			Date: September 26, 2013	COC No: 926132									
Argonne National Lab 9700 S Cass Ave Lemont/IL/60439 (630) 252-7969 Phone (630) 252-5747 FAX Project Name: Remediation Monitoring Site: Centralia, KS P O # 8A727-75-167		Tel/Fax: (630) 252-7969 Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day			Lab Contact: Kirk Young			Carrier: FedEx	1 of 1 COCs For Lab Use Only: Walk-in Client: _____ Lab Sampling: _____ Job / SDG No.: _____ Sampler: _____									
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Volatile Organic Compounds	Methane	Metals	Trace Metals	Sulfide	ANIONS - 48HR for NITRATE	Sample Specific Notes: 2 x 40mL for VOC 2 x 40mL for VOC			
		CNMW03-W-35805	09/25/13	13:06	G	W	2	N	2									
		CNMW07-W-35809	09/25/13	16:44	G	W	2	N	2									
		CNMW10-W-35811	09/25/13	18:32	G	W	2	N	2									
		CNPMP7-W-35823	09/25/13	15:40	G	W	2	N	2									
		CNQCTB-W-35831	09/25/13	10:00	G	W	2	N	2									
								0	N									
								0	N									
								0	N									
								0	N									
Preservation Used: 1=Ice, 2=HCl; 3=H ₂ SO ₄ ; 4=HNO ₃ ; 5=NaOH; 6= Other _____										1								
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.										Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months								
Special Instructions/QC Requirements & Comments:																		

Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____	
Relinquished by: Travis Kamler <i>[Signature]</i>	Company: TCW	Date/Time: 9/26/2013 16:00	Received by: _____	Company: _____ Date/Time: _____
Relinquished by: _____	Company: _____	Date/Time: _____	Received by: _____	Company: _____ Date/Time: _____
Relinquished by: _____	Company: _____	Date/Time: _____	Received in Laboratory by: <i>[Signature]</i>	Company: _____ Date/Time: <i>9/27/13 10:55</i>

From: (402) 418-7255
 Travis Kamler
 Argonne National Lab
 9700 S CASS AVE

LEMONT, IL 60439

Origin ID: ENLA



Ship Date: 26SEP13
 ActWgt: 15.0 LB
 CAD: 104734835/NET3430

Dims: 14 X 9 X 11 IN

Delivery Address Bar Code



Ref # 8A727-75-167
 Invoice #
 PO # Centralia waters
 Dept #

SHIP TO: (802) 660-1990

BILL SENDER

Kirk Young
 Test America
 30 COMMUNITY DR
 STE 11
 SOUTH BURLINGTON, VT 05403

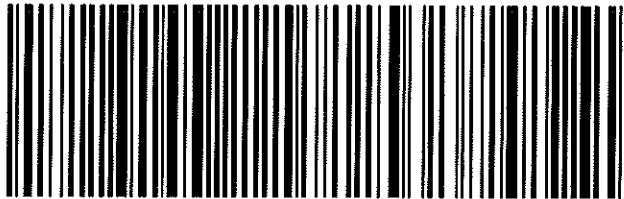
FRI - 27 SEP 10:30A

PRIORITY OVERNIGHT

TRK# 7967 7805 8350
 0201

05403
 VT-US
 BTV

XH BTVA



51AG192561A9E

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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TestAmerica Burlington
INTERNAL CHAIN OF CUSTODY LOG (ICOC)

T/¹ Extract, digestate, or any other prepared sample that is no longer in original sample container

/0₂ Military Time

BRFSR012:07.09.10:2
TestAmerica

Shipping and Receiving Documents

Login Sample Receipt Checklist

Client: Argonne National Laboratory

Job Number: 200-18648-1

SDG Number: 18648

Login Number: 18648

List Source: TestAmerica Burlington

List Number: 1

Creator: Marion, Greg T

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	NO SEAL NUMBERS
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.8°C IR GUN ID 181/CF=-0.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Sample Login Acknowledgement

Job 200-18648-1

Client Job Description:	Centralia (200-18648)	Report To:	Argonne National Laboratory
Purchase Order #:	1E-30401		Jorge Alvarado
Work Order #:	1E-30401		9700 South Cass Avenue
Project Manager:	Kirk F Young		Building 203
Job Due Date:	10/11/2013		Office B-141
Job TAT:	14 Days		Argonne, IL 60439
Max Deliverable Level:	IV	Bill To:	Argonne National Laboratory
Earliest Deliverable Due:	10/11/2013		Accounts Payable
			Chief Financial Offices
			9700 S. Cass Ave.
			Building 201
			Argonne, IL 60439

Login 200-18648

Sample Receipt:	9/27/2013 10:15:00 AM	Number of Coolers:	1
Method of Delivery:	FedEx Priority Overnight	Cooler Temperature(s) (C°):	1.8;

Lab Sample #	Client Sample ID	Date Sampled	Matrix	
			Rpt Basis	Dry / Wet **
200-18648-1	CNMW03-W-35805	9/25/2013 1:06:00 PM	Water	
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab		Total	Wet
200-18648-2	CNMW07-W-35809	9/25/2013 4:44:00 PM	Water	
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab		Total	Wet
200-18648-3	CNMW10-W-35811	9/25/2013 6:32:00 PM	Water	
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab		Total	Wet
200-18648-4	CNPMP7-W-35823	9/25/2013 3:40:00 PM	Water	
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab		Total	Wet
200-18648-5	CNQCTB-W-35831	9/25/2013 10:00:00 AM	Water	
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab		Total	Wet
200-18648-6	VHBLK01	9/27/2013 2:50:00 PM	Water	
SOM01.2_Vol_Tr	SOM01.2 Trace Volatile Organics / In-Lab		Total	Wet

* Method on-hold

** Wet/Dry indicates whether the reported results will be corrected for moisture content and based on sample Wet weight or Dry weight.

METHODOLOGY SUMMARY

Laboratory: TestAmerica Laboratories

Project No:

Location: South Burlington, Vermont

SDG No: 18648

VOA

Volatile Organics Trace - USEPA CLP SOM01.2

2A - FORM II VOA-1
WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON

Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Level: (TRACE or LOW) TRACE

	EPA SAMPLE NO.	VDMC1 (VCL) #	VDMC2 (CLA) #	VDMC3 (DCE) #	VDMC4 (BUT) #	VDMC5 (CLF) #	VDMC6 (DCA) #	VDMC7 (BEN) #
01	VBLKEH	96	97	75	108	83	89	85
02	CNMW03-W-35805	91	92	70	109	80	85	80
03	CNMW07-W-35809	103	104	80	117	90	93	83
04	CNMW10-W-35811	101	100	78	109	86	90	86
05	CNQCTB-W-35831	101	102	78	108	86	89	84
06	CNPMP7-W-35823	96	97	73	111	132 *	92	88
07	VBLKEI	103	101	78	102	87	88	84
08	CNPMP7-W-35823 DL	104	103	81	106	91	91	87
09	VHBLK01	105	103	80	105	87	89	85

	QC LIMITS
VDMC1 (VCL)	= Vinyl Chloride-d3 (65-131)
VDMC2 (CLA)	= Chloroethane-d5 (71-131)
VDMC3 (DCE)	= 1,1-Dichloroethene-d2 (55-104)
VDMC4 (BUT)	= 2-Butanone-d5 (49-155)
VDMC5 (CLF)	= Chloroform-d (78-121)
VDMC6 (DCA)	= 1,2-Dichloroethane-d4 (78-129)
VDMC7 (BEN)	= Benzene-d6 (77-124)

Column to be used to flag recovery values

* Values outside of contract required QC limits

2B - FORM II VOA-2
WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: TESTAMERICA BURLINGTON

Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Level: (TRACE or LOW) TRACE

	EPA SAMPLE NO.	VDMC8 (DPA) #	VDMC9 (TOL) #	VDMC10 (TDP) #	VDMC11 (HEX) #	VDMC12 (TCA) #	VDMC13 (DCZ) #	OTHER	TOT OUT
01	VBLKEH	85	85	85	110	82	88		0
02	CNMW03-W-35805	82	81	81	109	78	86		0
03	CNMW07-W-35809	86	84	83	113	81	88		0
04	CNMW10-W-35811	86	87	84	111	82	94		0
05	CNQCTB-W-35831	86	85	82	109	81	91		0
06	CNPMP7-W-35823	88	83	81	110	81	89		1
07	VBLKEI	85	84	80	100	76	90		0
08	CNPMP7-W-35823 DL	88	86	83	103	79	92		0
09	VHBLK01	88	86	83	104	81	91		0

		QC LIMITS
VDMC8	(DPA)	= 1,2-Dichloropropane-d6 (79-124)
VDMC9	(TOL)	= Toluene-d8 (77-121)
VDMC10	(TDP)	= trans-1,3-Dichloropropene-d4 (73-121)
VDMC11	(HEX)	= 2-Hexanone-d5 (28-135)
VDMC12	(TCA)	= 1,1,2,2-Tetrachloroethane-d2 (73-125)
VDMC13	(DCZ)	= 1,2-Dichlorobenzene-d4 (80-131)

Column to be used to flag recovery values
* Values outside of contract required QC limits

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKEH

Lab Name: TESTAMERICA BURLINGTON

Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Lab File ID: DKG10.D Lab Sample ID: MB 200-62263/10

Instrument ID: D.i

Matrix: (SOIL/SED/WATER) Water Date Analyzed: 10/02/2013

Level: (TRACE or LOW/MED) TRACE Time Analyzed: 1955

GC Column: DB-624 ID: 0.20 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	CNMW03-W-358 05	200-18648-1	DKG11.D	2018
02	CNMW07-W-358 09	200-18648-2	DKG12.D	2042
03	CNMW10-W-358 11	200-18648-3	DKG13.D	2106
04	CNQCTB-W-358 31	200-18648-5	DKG14.D	2130
05	CNPMP7-W-358 23	200-18648-4	DKG15.D	2154
06	VIBLKDX	VIBLK 200-62263/16	DKG16.D	2218

COMMENTS: _____

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKEI

Lab Name: TESTAMERICA BURLINGTON

Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Lab File ID: DKGA04.D Lab Sample ID: MB 200-62264/4

Instrument ID: D.i

Matrix: (SOIL/SED/WATER) Water Date Analyzed: 10/03/2013

Level: (TRACE or LOW/MED) TRACE Time Analyzed: 0925

GC Column: DB-624 ID: 0.20 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	CNPMP7-W-358 23DL	200-18648-4	DKGA05.D	0950
02	VHBLK01	200-18648-6	DKGA06.D	1013

COMMENTS: _____

5A - FORM V VOA
 VOLATILE ORGANICS INSTRUMENT
 PERFORMANCE CHECK
 BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFBEH

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Lab File Id: DKG01.D BFB Injection Date: 10/02/2013
 Instrument Id: D.i BFB Injection Time: 1625
 GC Column: DB-624 ID: 0.20 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.2
75	30.0 - 80.0% of mass 95	50.0
95	Base peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.4 (0.5)1
174	50.0 - 120% of mass 95	76.8
175	5.0 - 9.0% of mass 174	5.3 (6.9)1
176	95.0 - 101% of mass 174	74.3 (96.6)1
177	5.0 - 9.0% of mass 176	4.6 (6.2)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD0.5EH	IC 200-62263/3	DKG03.D	10/02/2013	1707
02	VSTD001EH	IC 200-62263/4	DKG04.D	10/02/2013	1731
03	VSTD005EH	ICIS 200-62263/5	DKG05.D	10/02/2013	1755
04	VSTD010EH	IC 200-62263/6	DKG06.D	10/02/2013	1819
05	VSTD020EH	IC 200-62263/7	DKG07.D	10/02/2013	1843
06	VBLKEH	MB 200-62263/10	DKG10.D	10/02/2013	1955
07	CNMW03-W-3 5805	200-18648-1	DKG11.D	10/02/2013	2018
08	CNMW07-W-3 5809	200-18648-2	DKG12.D	10/02/2013	2042
09	CNMW10-W-3 5811	200-18648-3	DKG13.D	10/02/2013	2106
10	CNQCTB-W-3 5831	200-18648-5	DKG14.D	10/02/2013	2130
11	CNPMP7-W-3 5823	200-18648-4	DKG15.D	10/02/2013	2154
12	VIBLKDX	VIBLK 200-62263/16	DKG16.D	10/02/2013	2218
13	VSTD005HE	CCVC 200-62263/17	DKG17.D	10/02/2013	2242

5A - FORM V VOA
 VOLATILE ORGANICS INSTRUMENT
 PERFORMANCE CHECK
 BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFBEI

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Lab File Id: DKGA01.D BFB Injection Date: 10/03/2013
 Instrument Id: D.i BFB Injection Time: 0816
 GC Column: DB-624 ID: 0.20 (mm)

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.9
75	30.0 - 80.0% of mass 95	50.2
95	Base peak, 100% relative abundance	100
96	5.0 - 9.0% of mass 95	6.6
173	Less than 2.0% of mass 174	0.4 (0.5)1
174	50.0 - 120% of mass 95	75.5
175	5.0 - 9.0% of mass 174	5.3 (7.0)1
176	95.0 - 101% of mass 174	72.6 (96.2)1
177	5.0 - 9.0% of mass 176	4.8 (6.7)2

1 - Value is %mass 174 2 - Value is %mass 176

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005EI	CCVIS 200-62264/2	DKGA02.D	10/03/2013	0837
02	VBLKEI	MB 200-62264/4	DKGA04.D	10/03/2013	0925
03	CNPMP7-W-3 5823DL	200-18648-4	DKGA05.D	10/03/2013	0950
04	VHBLK01	200-18648-6	DKGA06.D	10/03/2013	1013
05	VSTD005IE	CCVC 200-62264/7	DKGA07.D	10/03/2013	1307

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

GC Column: DB-624 ID: 0.20 (mm) Init. Calib. Date(s): 10/02/2013 10/02/2013

EPA Sample No. (VSTD#####): VSTD005EH Date Analyzed: 10/02/2013

Lab File ID (Standard): DKG05.D Time Analyzed: 1755

Instrument ID: D.i Heated Purge: (Y/N) N

	IS1 (CBZ) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (DCB) AREA #	RT #
12 HOUR STD	222776	9.28	265418	5.92	93195	12.09
UPPER LIMIT	311886	9.61	371585	6.25	130473	12.42
LOWER LIMIT	133666	8.95	159251	5.59	55917	11.76
EPA SAMPLE NO.						
01 VBLKEH	243396	9.28	285952	5.92	88405	12.09
02 CNMW03-W-35805	221949	9.28	263186	5.92	81450	12.09
03 CNMW07-W-35809	206672	9.28	234378	5.92	77204	12.09
04 CNMW10-W-35811	212726	9.28	249679	5.92	73923	12.09
05 CNQCTB-W-35831	207716	9.28	238873	5.92	74947	12.09
06 CNPMP7-W-35823	199628	9.28	245086	5.92	72267	12.09
07 VIBLKDX	187347	9.28	220468	5.92	65476	12.09

IS1 (CBZ) = Chlorobenzene-d5

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 140% (Trace Volatiles) of internal standard area

AREA LOWER LIMIT = 60% (Trace Volatiles) of internal standard area

RT UPPER LIMIT = + 0.33 (Trace Volatiles) minutes of internal standard RT

RT LOWER LIMIT = - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA
VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

GC Column: DB-624 ID: 0.20 (mm) Init. Calib. Date(s): 10/02/2013 10/02/2013

EPA Sample No. (VSTD#####): VSTD005EI Date Analyzed: 10/03/2013

Lab File ID (Standard): DKGA02.D Time Analyzed: 0837

Instrument ID: D.i Heated Purge: (Y/N) N

	IS1 (CBZ) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (DCB) AREA #	RT #
12 HOUR STD	239769	9.28	291100	5.92	100891	12.09
UPPER LIMIT	335677	9.61	407540	6.25	141247	12.42
LOWER LIMIT	143861	8.95	174660	5.59	60535	11.76
EPA SAMPLE NO.						
01 VBLKEI	209570	9.28	241898	5.92	74318	12.09
02 CNPMP7-W-35823 DL	192221	9.28	227594	5.92	67812	12.09
03 VHBLK01	199652	9.28	231773	5.92	70605	12.09

IS1 (CBZ) = Chlorobenzene-d5

IS2 (DFB) = 1,4-Difluorobenzene

IS3 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 140% (Trace Volatiles) of internal standard area

AREA LOWER LIMIT = 60% (Trace Volatiles) of internal standard area

RT UPPER LIMIT = + 0.33 (Trace Volatiles) minutes of internal standard RT

RT LOWER LIMIT = - 0.33 (Trace Volatiles) minutes of internal standard RT

Column used to flag values outside contract required QC limits with an asterisk.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNMW03-W-35805

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG11.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.023	J B
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.014	J B
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.32	J
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	12	
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNMW03-W-35805

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-1

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG11.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CNMW03-W-35805

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-1
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG11.D
 Level: (TRACE or LOW/MED) TRACE Date Received: 09/27/2013
 % Moisture: not dec. Date Analyzed: 10/02/2013
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	7.23	2.8	B X J
02	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNMW07-W-35809

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG12.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.027	J B
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.015	J B
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.74	
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	12	
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNMW07-W-35809

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-2

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG12.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.048	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CNMW07-W-35809

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-2
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG12.D
 Level: (TRACE or LOW/MED) TRACE Date Received: 09/27/2013
 % Moisture: not dec. Date Analyzed: 10/02/2013
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	7.23	2.9	B X J
02	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNMW10-W-35811

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG13.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg)	ug/L	Q
75-71-8	Dichlorodifluoromethane		0.50	U
74-87-3	Chloromethane		0.50	U
75-01-4	Vinyl chloride		0.50	U
74-83-9	Bromomethane		0.015	J B
75-00-3	Chloroethane		0.50	U
75-69-4	Trichlorofluoromethane		0.50	U
75-35-4	1,1-Dichloroethene		0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane		0.50	U
67-64-1	Acetone		5.0	U
75-15-0	Carbon disulfide		0.50	U
79-20-9	Methyl acetate		0.50	U
75-09-2	Methylene Chloride		0.50	U
156-60-5	trans-1,2-Dichloroethene		0.015	J B
1634-04-4	Methyl tert-butyl ether		0.50	U
75-34-3	1,1-Dichloroethane		0.50	U
156-59-2	cis-1,2-Dichloroethene		0.50	U
78-93-3	2-Butanone		5.0	U
74-97-5	Bromochloromethane		0.50	U
67-66-3	Chloroform		0.50	U
71-55-6	1,1,1-Trichloroethane		0.50	U
110-82-7	Cyclohexane		0.50	U
56-23-5	Carbon tetrachloride		0.0081	J
71-43-2	Benzene		0.50	U
107-06-2	1,2-Dichloroethane		0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNMW10-W-35811

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG13.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.22	J
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CNMW10-W-35811

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-3

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG13.D

Level: (TRACE or LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	7.23	2.9	B X J
02	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNPMP7-W-35823

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-4
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG15.D
 Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013
 % Moisture: not dec. Date Analyzed: 10/02/2013
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.1
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
 Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.55	U
74-87-3	Chloromethane	0.066	J
75-01-4	Vinyl chloride	0.55	U
74-83-9	Bromomethane	0.015	J B
75-00-3	Chloroethane	0.55	U
75-69-4	Trichlorofluoromethane	0.55	U
75-35-4	1,1-Dichloroethene	0.55	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.55	U
67-64-1	Acetone	5.5	U
75-15-0	Carbon disulfide	0.55	U
79-20-9	Methyl acetate	0.55	U
75-09-2	Methylene Chloride	6.9	B
156-60-5	trans-1,2-Dichloroethene	0.0088	J B
1634-04-4	Methyl tert-butyl ether	0.55	U
75-34-3	1,1-Dichloroethane	0.55	U
156-59-2	cis-1,2-Dichloroethene	0.55	U
78-93-3	2-Butanone	5.5	U
74-97-5	Bromochloromethane	0.55	U
67-66-3	Chloroform	81	E
71-55-6	1,1,1-Trichloroethane	0.55	U
110-82-7	Cyclohexane	0.55	U
56-23-5	Carbon tetrachloride	170	E
71-43-2	Benzene	0.039	J
107-06-2	1,2-Dichloroethane	0.55	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNPMP7-W-35823

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-4
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG15.D
 Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013
 % Moisture: not dec. Date Analyzed: 10/02/2013
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.1
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
 Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.55	U
108-87-2	Methylcyclohexane	0.55	U
78-87-5	1,2-Dichloropropane	0.55	U
75-27-4	Bromodichloromethane	0.55	U
10061-01-5	cis-1,3-Dichloropropene	0.55	U
108-10-1	4-Methyl-2-pentanone	5.5	U
108-88-3	Toluene	0.047	J
10061-02-6	trans-1,3-Dichloropropene	0.55	U
79-00-5	1,1,2-Trichloroethane	0.55	U
127-18-4	Tetrachloroethene	0.55	U
591-78-6	2-Hexanone	5.5	U
124-48-1	Dibromochloromethane	0.55	U
106-93-4	1,2-Dibromoethane	0.55	U
108-90-7	Chlorobenzene	0.55	U
100-41-4	Ethylbenzene	0.55	U
95-47-6	o-Xylene	0.55	U
179601-23-1	m,p-Xylene	0.55	U
100-42-5	Styrene	0.55	U
75-25-2	Bromoform	0.55	U
98-82-8	Isopropylbenzene	0.55	U
79-34-5	1,1,2,2-Tetrachloroethane	0.55	U
541-73-1	1,3-Dichlorobenzene	0.55	U
106-46-7	1,4-Dichlorobenzene	0.55	U
95-50-1	1,2-Dichlorobenzene	0.55	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.55	U
120-82-1	1,2,4-Trichlorobenzene	0.55	U
87-61-6	1,2,3-Trichlorobenzene	0.55	U

1J - FORM I VOA-TIC
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CNPMP7-W-35823

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-4
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG15.D
 Level: (TRACE or LOW/MED) TRACE Date Received: 09/27/2013
 % Moisture: not dec. Date Analyzed: 10/02/2013
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.1
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
 CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	7.23	2.9	B X J
02	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNPMP7-W-35823DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKGA05.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/03/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 14.6

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	7.3	U
74-87-3	Chloromethane	7.3	U
75-01-4	Vinyl chloride	7.3	U
74-83-9	Bromomethane	0.37	J D
75-00-3	Chloroethane	7.3	U
75-69-4	Trichlorofluoromethane	7.3	U
75-35-4	1,1-Dichloroethene	7.3	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	7.3	U
67-64-1	Acetone	23	J D
75-15-0	Carbon disulfide	7.3	U
79-20-9	Methyl acetate	7.3	U
75-09-2	Methylene Chloride	9.8	D B
156-60-5	trans-1,2-Dichloroethene	7.3	U
1634-04-4	Methyl tert-butyl ether	7.3	U
75-34-3	1,1-Dichloroethane	7.3	U
156-59-2	cis-1,2-Dichloroethene	7.3	U
78-93-3	2-Butanone	73	U
74-97-5	Bromochloromethane	7.3	U
67-66-3	Chloroform	79	D
71-55-6	1,1,1-Trichloroethane	7.3	U
110-82-7	Cyclohexane	7.3	U
56-23-5	Carbon tetrachloride	130	D
71-43-2	Benzene	7.3	U
107-06-2	1,2-Dichloroethane	7.3	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNPMP7-W-35823DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKGA05.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/03/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 14.6

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	7.3	U
108-87-2	Methylcyclohexane	7.3	U
78-87-5	1,2-Dichloropropane	7.3	U
75-27-4	Bromodichloromethane	7.3	U
10061-01-5	cis-1,3-Dichloropropene	7.3	U
108-10-1	4-Methyl-2-pentanone	73	U
108-88-3	Toluene	0.28	J D
10061-02-6	trans-1,3-Dichloropropene	7.3	U
79-00-5	1,1,2-Trichloroethane	7.3	U
127-18-4	Tetrachloroethene	7.3	U
591-78-6	2-Hexanone	73	U
124-48-1	Dibromochloromethane	7.3	U
106-93-4	1,2-Dibromoethane	7.3	U
108-90-7	Chlorobenzene	7.3	U
100-41-4	Ethylbenzene	7.3	U
95-47-6	o-Xylene	7.3	U
179601-23-1	m,p-Xylene	7.3	U
100-42-5	Styrene	7.3	U
75-25-2	Bromoform	7.3	U
98-82-8	Isopropylbenzene	7.3	U
79-34-5	1,1,2,2-Tetrachloroethane	7.3	U
541-73-1	1,3-Dichlorobenzene	7.3	U
106-46-7	1,4-Dichlorobenzene	7.3	U
95-50-1	1,2-Dichlorobenzene	7.3	U
96-12-8	1,2-Dibromo-3-Chloropropane	7.3	U
120-82-1	1,2,4-Trichlorobenzene	7.3	U
87-61-6	1,2,3-Trichlorobenzene	7.3	U

1J - FORM I VOA-TIC
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CNPMP7-W-35823DL

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKGA05.D

Level: (TRACE or LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/03/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 14.6

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	7.23	42	B X D J
02	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNQCTB-W-35831

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG14.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	1.4	J
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.0079	J B
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.079	J
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.046	J
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CNQCTB-W-35831

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG14.D

Level: (TRACE/LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.26	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.037	J
95-47-6	o-Xylene	0.042	J
179601-23-1	m,p-Xylene	0.13	J
100-42-5	Styrene	0.034	J
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CNQCTB-W-35831

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-5

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG14.D

Level: (TRACE or LOW/MED) TRACE Date Received: 09/27/2013

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	7.23	2.8	B X J
02	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

6A - FORM VI VOA-1
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date(s): 10/02/2013 10/02/2013

Heated Purge: (Y/N) N Calibration Time(s): 1707 1843

Purge Volume: 25.0 (mL)

GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

LAB FILE ID:	RRF 0.5	RRF 1.0	RRF 5.0	RRF 10	RRF 20	RRF	%RSD
RRF 5.0 = DKG05.D	RRF 10 = DKG06.D	RRF 20 = DKG07.D					
Dichlorodifluoromethane	0.266	0.274	0.259	0.266	0.266	0.266	2.1
Chloromethane	0.380	0.374	0.344	0.354	0.348	0.360	4.5
Vinyl chloride	0.382	0.368	0.359	0.377	0.383	0.374	2.7
Bromomethane	0.242	0.256	0.279	0.308	0.322	0.281	12.0
Chloroethane	0.299	0.293	0.282	0.296	0.306	0.295	2.9
Trichlorofluoromethane	0.733	0.755	0.745	0.782	0.810	0.765	4.1
1,1-Dichloroethene	0.352	0.348	0.344	0.373	0.398	0.363	6.2
1,1,2-Trichloro-1,2,2-trifluoroethane	0.356	0.388	0.390	0.419	0.445	0.400	8.5
Acetone	0.027	0.026	0.023	0.024	0.025	0.025	5.9
Carbon disulfide	0.639	0.633	0.637	0.663	0.673	0.649	2.7
Methyl acetate	0.036	0.041	0.042	0.042	0.042	0.041	6.3
Methylene Chloride	0.365	0.318	0.249	0.246	0.250	0.286	18.8
trans-1,2-Dichloroethene	0.259	0.267	0.288	0.309	0.325	0.290	9.5
Methyl tert-butyl ether	0.210	0.207	0.249	0.291	0.330	0.257	20.5
1,1-Dichloroethane	0.512	0.515	0.535	0.564	0.576	0.540	5.3
cis-1,2-Dichloroethene	0.242	0.266	0.289	0.312	0.327	0.287	11.9
2-Butanone	0.021	0.023	0.027	0.030	0.033	0.027	18.4
Bromochloromethane	0.081	0.085	0.086	0.092	0.096	0.088	6.9
Chloroform	0.470	0.487	0.502	0.535	0.556	0.510	6.9
1,1,1-Trichloroethane	0.578	0.550	0.609	0.691	0.688	0.623	10.3
Cyclohexane	0.464	0.487	0.621	0.713	0.701	0.597	19.6
Carbon tetrachloride	0.487	0.496	0.560	0.628	0.627	0.560	12.1
Benzene	1.402	1.365	1.471	1.645	1.652	1.507	8.9
1,2-Dichloroethane	0.198	0.213	0.219	0.244	0.260	0.227	11.0
Trichloroethene	0.352	0.326	0.369	0.420	0.428	0.379	11.5
Methylcyclohexane	0.400	0.421	0.510	0.576	0.599	0.501	17.8

Report 1,4-Dioxane for Low-Medium VOA analysis only

6B - FORM VI VOA-2
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date(s): 10/02/2013 10/02/2013

Heated Purge: (Y/N) N Calibration Time(s): 1707 1843

Purge Volume: 25.0 (mL)

GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

LAB FILE ID:	RRF 0.5 = DKG03.D	RRF 1.0 = DKG04.D					
RRF 5.0 = DKG05.D	RRF 10 = DKG06.D	RRF 20 = DKG07.D					
COMPOUND	RRF 0.5	RRF 1.0	RRF 5.0	RRF 10	RRF 20	RRF	%RSD
1,2-Dichloropropane	0.274	0.268	0.285	0.326	0.342	0.299	11.0
Bromodichloromethane	0.284	0.275	0.319	0.358	0.380	0.323	14.2
cis-1,3-Dichloropropene	0.297	0.316	0.388	0.452	0.469	0.384	20.3
4-Methyl-2-pentanone	0.061	0.067	0.079	0.089	0.093	0.078	17.8
Toluene	1.543	1.547	1.699	1.878	1.904	1.714	10.1
trans-1,3-Dichloropropene	0.211	0.213	0.266	0.298	0.328	0.263	19.7
1,1,2-Trichloroethane	0.135	0.134	0.136	0.145	0.155	0.141	6.3
Tetrachloroethene	0.316	0.304	0.328	0.363	0.381	0.338	9.6
2-Hexanone	0.041	0.048	0.056	0.060	0.064	0.054	17.4
Dibromochloromethane	0.129	0.142	0.159	0.189	0.202	0.164	18.8
1,2-Dibromoethane	0.107	0.107	0.117	0.134	0.140	0.121	12.7
Chlorobenzene	0.942	0.945	0.970	1.029	1.081	0.993	6.0
Ethylbenzene	1.534	1.685	1.977	2.224	2.285	1.941	16.9
o-Xylene	0.500	0.537	0.677	0.793	0.856	0.673	23.0
m,p-Xylene	0.579	0.643	0.763	0.846	0.898	0.746	18.0
Styrene	0.657	0.797	1.003	1.197	1.326	0.996	27.7
Bromoform	0.120	0.132	0.149	0.171	0.187	0.152	18.0
Isopropylbenzene	1.317	1.525	1.987	2.300	2.446	1.915	25.4
1,1,2,2-Tetrachloroethane	0.120	0.121	0.128	0.138	0.142	0.130	7.7
1,3-Dichlorobenzene	1.317	1.411	1.499	1.699	1.832	1.552	13.6
1,4-Dichlorobenzene	1.581	1.618	1.577	1.698	1.790	1.653	5.5
1,2-Dichlorobenzene	1.171	1.224	1.222	1.344	1.420	1.276	8.0
1,2-Dibromo-3-Chloropropane		0.021	0.025	0.028	0.031	0.026	16.4
1,2,4-Trichlorobenzene	0.325	0.368	0.402	0.479	0.558	0.426	21.8
1,2,3-Trichlorobenzene	0.193	0.228	0.234	0.286	0.333	0.255	21.6

6C - FORM VI VOA-3
VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date(s): 10/02/2013 10/02/2013

Heated Purge: (Y/N) N Calibration Time(s): 1707 1843

Purge Volume: 25.0 (mL)

GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

LAB FILE ID:	RRF 0.5 = DKG03.D	RRF 1.0 = DKG04.D					
RRF 5.0 = DKG05.D	RRF 10 = DKG06.D	RRF 20 = DKG07.D					
COMPOUND	RRF 0.5	RRF 1.0	RRF 5.0	RRF 10	RRF 20	RRF	%RSD
Vinyl Chloride-d3	0.425	0.435	0.412	0.430	0.442	0.429	2.6
Chloroethane-d5	0.404	0.406	0.389	0.411	0.425	0.407	3.2
1,1-Dichloroethene-d2	1.235	1.092	0.903	0.942	0.973	1.029	13.1
2-Butanone-d5	0.018	0.019	0.021	0.022	0.024	0.021	10.7
Chloroform-d	0.865	0.770	0.627	0.657	0.676	0.719	13.6
1,2-Dichloroethane-d4	0.283	0.256	0.199	0.215	0.218	0.234	14.7
Benzene-d6	2.328	1.962	1.649	1.817	1.835	1.918	13.3
1,2-Dichloropropane-d6	0.531	0.428	0.372	0.404	0.404	0.427	14.3
Toluene-d8	2.250	1.925	1.687	1.828	1.837	1.905	11.1
trans-1,3-Dichloropropene-d4	0.328	0.276	0.266	0.302	0.335	0.301	10.1
2-Hexanone-d5	0.015	0.018	0.025	0.028	0.031	0.023	28.0
1,1,2,2-Tetrachloroethane-d2	0.200	0.181	0.147	0.160	0.163	0.171	12.1
1,2-Dichlorobenzene-d4	1.382	1.214	0.907	0.941	0.998	1.089	18.6

Report 1,4-Dioxane-d8 for Low-Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date: 10/02/2013 Time: 2242

Lab File Id: DKG17.D Init. Calib. Date(s): 10/02/2013 10/02/2013

EPA Sample No.(VSTD####): VSTD005HE Init. Calib. Time(s): 1707 1843

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.266	0.262	0.010	-1.6	50.0
Chloromethane	0.360	0.354	0.010	-1.7	50.0
Vinyl chloride	0.374	0.366	0.010	-2.2	50.0
Bromomethane	0.281	0.276	0.010	-2.0	50.0
Chloroethane	0.295	0.283	0.010	-4.0	50.0
Trichlorofluoromethane	0.765	0.767	0.010	0.3	50.0
1,1-Dichloroethene	0.363	0.355	0.010	-2.3	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.400	0.397	0.010	-0.7	50.0
Acetone	0.025	0.024	0.010	-4.7	50.0
Carbon disulfide	0.649	0.647	0.010	-0.3	50.0
Methyl acetate	0.041	0.040	0.010	-1.7	50.0
Methylene Chloride	0.286	0.254	0.010	-11.1	50.0
trans-1,2-Dichloroethene	0.290	0.291	0.010	0.3	50.0
Methyl tert-butyl ether	0.257	0.252	0.010	-2.2	50.0
1,1-Dichloroethane	0.540	0.551	0.010	2.0	50.0
cis-1,2-Dichloroethene	0.287	0.294	0.010	2.2	50.0
2-Butanone	0.027	0.027	0.010	0.1	50.0
Bromochloromethane	0.088	0.091	0.010	2.9	50.0
Chloroform	0.510	0.525	0.010	2.8	50.0
1,1,1-Trichloroethane	0.623	0.614	0.010	-1.4	50.0
Cyclohexane	0.597	0.642	0.010	7.6	50.0
Carbon tetrachloride	0.560	0.566	0.010	1.2	50.0
Benzene	1.507	1.501	0.010	-0.4	50.0
1,2-Dichloroethane	0.227	0.233	0.010	2.9	50.0
Trichloroethene	0.379	0.365	0.010	-3.8	50.0
Methylcyclohexane	0.501	0.519	0.010	3.7	50.0

Report 1,4-Dioxane for Low/Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date: 10/02/2013 Time: 2242

Lab File Id: DKG17.D Init. Calib. Date(s): 10/02/2013 10/02/2013

EPA Sample No. (VSTD####): VSTD005HE Init. Calib. Time(s): 1707 1843

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.299	0.290	0.010	-3.1	50.0
Bromodichloromethane	0.323	0.324	0.010	0.4	50.0
cis-1,3-Dichloropropene	0.384	0.385	0.010	0.2	50.0
4-Methyl-2-pentanone	0.078	0.081	0.010	4.3	50.0
Toluene	1.714	1.699	0.010	-0.9	50.0
trans-1,3-Dichloropropene	0.263	0.257	0.010	-2.2	50.0
1,1,2-Trichloroethane	0.141	0.136	0.010	-3.6	50.0
Tetrachloroethene	0.338	0.324	0.010	-4.3	50.0
2-Hexanone	0.054	0.056	0.010	3.3	50.0
Dibromochloromethane	0.164	0.165	0.010	0.3	50.0
1,2-Dibromoethane	0.121	0.120	0.010	-1.0	50.0
Chlorobenzene	0.993	0.969	0.010	-2.5	50.0
Ethylbenzene	1.941	1.957	0.010	0.8	50.0
o-Xylene	0.673	0.692	0.010	2.8	50.0
m,p-Xylene	0.746	0.762	0.010	2.2	50.0
Styrene	0.996	1.049	0.010	5.3	50.0
Bromoform	0.152	0.142	0.010	-6.3	50.0
Isopropylbenzene	1.915	2.014	0.010	5.1	50.0
1,1,2,2-Tetrachloroethane	0.130	0.132	0.010	1.4	50.0
1,3-Dichlorobenzene	1.552	1.499	0.010	-3.4	50.0
1,4-Dichlorobenzene	1.653	1.599	0.010	-3.3	50.0
1,2-Dichlorobenzene	1.276	1.241	0.010	-2.8	50.0
1,2-Dibromo-3-Chloropropane	0.026	0.025	0.010	-3.5	50.0
1,2,4-Trichlorobenzene	0.426	0.379	0.010	-11.1	50.0
1,2,3-Trichlorobenzene	0.255	0.226	0.010	-11.3	50.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date: 10/02/2013 Time: 2242

Lab File Id: DKG17.D Init. Calib. Date(s): 10/02/2013 10/02/2013

EPA Sample No.(VSTD####): VSTD005HE Init. Calib. Time(s): 1707 1843

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Vinyl Chloride-d3	0.429	0.423	0.010	-1.4	50.0
Chloroethane-d5	0.407	0.396	0.010	-2.7	50.0
1,1-Dichloroethene-d2	1.029	0.930	0.010	-9.6	50.0
2-Butanone-d5	0.021	0.022	0.010	6.0	50.0
Chloroform-d	0.719	0.654	0.010	-9.0	50.0
1,2-Dichloroethane-d4	0.234	0.214	0.010	-8.6	50.0
Benzene-d6	1.918	1.677	0.010	-12.6	50.0
1,2-Dichloropropane-d6	0.427	0.374	0.010	-12.6	50.0
Toluene-d8	1.905	1.695	0.010	-11.1	50.0
trans-1,3-Dichloropropene-d4	0.301	0.269	0.010	-10.7	50.0
2-Hexanone-d5	0.023	0.025	0.010	7.5	50.0
1,1,2,2-Tetrachloroethane-d2	0.171	0.156	0.010	-8.6	50.0
1,2-Dichlorobenzene-d4	1.089	0.890	0.010	-18.3	50.0

Report 1,4-Dioxane-d8 for Low/Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date: 10/03/2013 Time: 0837

Lab File Id: DKGA02.D Init. Calib. Date(s): 10/02/2013 10/02/2013

EPA Sample No. (VSTD####): VSTD005EI Init. Calib. Time(s): 1707 1843

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.266	0.265	0.010	-0.4	40.0
Chloromethane	0.360	0.351	0.010	-2.4	40.0
Vinyl chloride	0.374	0.367	0.100	-1.8	30.0
Bromomethane	0.281	0.286	0.100	1.6	30.0
Chloroethane	0.295	0.282	0.010	-4.5	40.0
Trichlorofluoromethane	0.765	0.739	0.010	-3.4	40.0
1,1-Dichloroethene	0.363	0.344	0.100	-5.3	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.400	0.401	0.010	0.3	40.0
Acetone	0.025	0.025	0.010	-1.3	40.0
Carbon disulfide	0.649	0.683	0.010	5.3	40.0
Methyl acetate	0.041	0.044	0.010	9.0	40.0
Methylene Chloride	0.286	0.248	0.010	-13.0	40.0
trans-1,2-Dichloroethene	0.290	0.295	0.010	1.7	40.0
Methyl tert-butyl ether	0.257	0.254	0.010	-1.5	40.0
1,1-Dichloroethane	0.540	0.527	0.200	-2.5	30.0
cis-1,2-Dichloroethene	0.287	0.304	0.010	5.9	40.0
2-Butanone	0.027	0.028	0.010	3.1	40.0
Bromochloromethane	0.088	0.086	0.050	-1.9	30.0
Chloroform	0.510	0.514	0.200	0.8	30.0
1,1,1-Trichloroethane	0.623	0.629	0.100	0.9	30.0
Cyclohexane	0.597	0.654	0.010	9.5	40.0
Carbon tetrachloride	0.560	0.571	0.100	1.9	30.0
Benzene	1.507	1.521	0.400	0.9	30.0
1,2-Dichloroethane	0.227	0.227	0.100	0.3	30.0
Trichloroethene	0.379	0.388	0.300	2.3	30.0
Methylcyclohexane	0.501	0.541	0.010	8.0	40.0

Report 1,4-Dioxane for Low/Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date: 10/03/2013 Time: 0837

Lab File Id: DKGA02.D Init. Calib. Date(s): 10/02/2013 10/02/2013

EPA Sample No. (VSTD####): VSTD005EI Init. Calib. Time(s): 1707 1843

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.299	0.288	0.010	-3.7	40.0
Bromodichloromethane	0.323	0.325	0.200	0.7	30.0
cis-1,3-Dichloropropene	0.384	0.409	0.200	6.4	30.0
4-Methyl-2-pentanone	0.078	0.078	0.010	0.3	40.0
Toluene	1.714	1.679	0.400	-2.1	30.0
trans-1,3-Dichloropropene	0.263	0.285	0.100	8.4	30.0
1,1,2-Trichloroethane	0.141	0.136	0.100	-3.3	30.0
Tetrachloroethene	0.338	0.335	0.100	-1.1	30.0
2-Hexanone	0.054	0.056	0.010	3.5	40.0
Dibromochloromethane	0.164	0.160	0.100	-2.4	30.0
1,2-Dibromoethane	0.121	0.124	0.010	2.3	40.0
Chlorobenzene	0.993	0.959	0.500	-3.4	30.0
Ethylbenzene	1.941	1.958	0.100	0.9	30.0
o-Xylene	0.673	0.657	0.300	-2.3	30.0
m,p-Xylene	0.746	0.762	0.300	2.1	30.0
Styrene	0.996	0.978	0.300	-1.8	30.0
Bromoform	0.152	0.138	0.050	-9.1	30.0
Isopropylbenzene	1.915	1.983	0.010	3.6	40.0
1,1,2,2-Tetrachloroethane	0.130	0.118	0.100	-9.1	30.0
1,3-Dichlorobenzene	1.552	1.557	0.400	0.3	30.0
1,4-Dichlorobenzene	1.653	1.575	0.400	-4.7	30.0
1,2-Dichlorobenzene	1.276	1.226	0.400	-4.0	30.0
1,2-Dibromo-3-Chloropropane	0.026	0.025	0.010	-4.8	40.0
1,2,4-Trichlorobenzene	0.426	0.482	0.200	13.1	30.0
1,2,3-Trichlorobenzene	0.255	0.318	0.200	24.9	30.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date: 10/03/2013 Time: 0837

Lab File Id: DKGA02.D Init. Calib. Date(s): 10/02/2013 10/02/2013

EPA Sample No. (VSTD####): VSTD005EI Init. Calib. Time(s): 1707 1843

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Vinyl Chloride-d3	0.429	0.424	0.010	-1.0	30.0
Chloroethane-d5	0.407	0.394	0.010	-3.2	40.0
1,1-Dichloroethene-d2	1.029	0.896	0.010	-12.9	30.0
2-Butanone-d5	0.021	0.027	0.010	31.4	40.0
Chloroform-d	0.719	0.634	0.010	-11.8	30.0
1,2-Dichloroethane-d4	0.234	0.212	0.010	-9.3	30.0
Benzene-d6	1.918	1.714	0.010	-10.7	30.0
1,2-Dichloropropane-d6	0.427	0.377	0.010	-11.9	40.0
Toluene-d8	1.905	1.673	0.010	-12.2	30.0
trans-1,3-Dichloropropene-d4	0.301	0.305	0.010	1.2	30.0
2-Hexanone-d5	0.023	0.025	0.010	7.8	40.0
1,1,2,2-Tetrachloroethane-d2	0.171	0.140	0.010	-17.7	30.0
1,2-Dichlorobenzene-d4	1.089	0.877	0.010	-19.4	30.0

Report 1,4-Dioxane-d8 for Low/Medium VOA analysis only

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date: 10/03/2013 Time: 1307

Lab File Id: DKGA07.D Init. Calib. Date(s): 10/02/2013 10/02/2013

EPA Sample No.(VSTD####): VSTD005IE Init. Calib. Time(s): 1707 1843

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Dichlorodifluoromethane	0.266	0.267	0.010	0.4	50.0
Chloromethane	0.360	0.358	0.010	-0.5	50.0
Vinyl chloride	0.374	0.368	0.010	-1.5	50.0
Bromomethane	0.281	0.285	0.010	1.1	50.0
Chloroethane	0.295	0.290	0.010	-1.8	50.0
Trichlorofluoromethane	0.765	0.773	0.010	1.1	50.0
1,1-Dichloroethene	0.363	0.356	0.010	-1.9	50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	0.400	0.418	0.010	4.6	50.0
Acetone	0.025	0.024	0.010	-3.7	50.0
Carbon disulfide	0.649	0.662	0.010	2.0	50.0
Methyl acetate	0.041	0.045	0.010	11.7	50.0
Methylene Chloride	0.286	0.240	0.010	-16.0	50.0
trans-1,2-Dichloroethene	0.290	0.291	0.010	0.5	50.0
Methyl tert-butyl ether	0.257	0.254	0.010	-1.5	50.0
1,1-Dichloroethane	0.540	0.541	0.010	0.1	50.0
cis-1,2-Dichloroethene	0.287	0.298	0.010	3.6	50.0
2-Butanone	0.027	0.029	0.010	6.7	50.0
Bromochloromethane	0.088	0.086	0.010	-1.9	50.0
Chloroform	0.510	0.518	0.010	1.4	50.0
1,1,1-Trichloroethane	0.623	0.612	0.010	-1.9	50.0
Cyclohexane	0.597	0.644	0.010	7.8	50.0
Carbon tetrachloride	0.560	0.556	0.010	-0.7	50.0
Benzene	1.507	1.464	0.010	-2.8	50.0
1,2-Dichloroethane	0.227	0.226	0.010	-0.5	50.0
Trichloroethene	0.379	0.374	0.010	-1.3	50.0
Methylcyclohexane	0.501	0.532	0.010	6.1	50.0

Report 1,4-Dioxane for Low/Medium VOA analysis only

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date: 10/03/2013 Time: 1307

Lab File Id: DKGA07.D Init. Calib. Date(s): 10/02/2013 10/02/2013

EPA Sample No. (VSTD####): VSTD005IE Init. Calib. Time(s): 1707 1843

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
1,2-Dichloropropane	0.299	0.296	0.010	-1.2	50.0
Bromodichloromethane	0.323	0.318	0.010	-1.7	50.0
cis-1,3-Dichloropropene	0.384	0.396	0.010	3.0	50.0
4-Methyl-2-pentanone	0.078	0.077	0.010	-0.5	50.0
Toluene	1.714	1.666	0.010	-2.8	50.0
trans-1,3-Dichloropropene	0.263	0.267	0.010	1.4	50.0
1,1,2-Trichloroethane	0.141	0.137	0.010	-2.5	50.0
Tetrachloroethene	0.338	0.325	0.010	-4.0	50.0
2-Hexanone	0.054	0.055	0.010	2.3	50.0
Dibromochloromethane	0.164	0.158	0.010	-4.1	50.0
1,2-Dibromoethane	0.121	0.118	0.010	-2.3	50.0
Chlorobenzene	0.993	0.950	0.010	-4.4	50.0
Ethylbenzene	1.941	1.928	0.010	-0.7	50.0
o-Xylene	0.673	0.661	0.010	-1.7	50.0
m,p-Xylene	0.746	0.751	0.010	0.8	50.0
Styrene	0.996	0.976	0.010	-2.0	50.0
Bromoform	0.152	0.140	0.010	-7.9	50.0
Isopropylbenzene	1.915	1.945	0.010	1.6	50.0
1,1,2,2-Tetrachloroethane	0.130	0.122	0.010	-6.3	50.0
1,3-Dichlorobenzene	1.552	1.520	0.010	-2.0	50.0
1,4-Dichlorobenzene	1.653	1.570	0.010	-5.0	50.0
1,2-Dichlorobenzene	1.276	1.235	0.010	-3.2	50.0
1,2-Dibromo-3-Chloropropane	0.026	0.024	0.010	-8.8	50.0
1,2,4-Trichlorobenzene	0.426	0.393	0.010	-7.9	50.0
1,2,3-Trichlorobenzene	0.255	0.218	0.010	-14.3	50.0

7C - FORM VII VOA-3
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Instrument ID: D.i Calibration Date: 10/03/2013 Time: 1307

Lab File Id: DKGA07.D Init. Calib. Date(s): 10/02/2013 10/02/2013

EPA Sample No.(VSTD####): VSTD005IE Init. Calib. Time(s): 1707 1843

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.20 (mm) Length: 25 (m)

Purge Volume: 25.0 (mL)

COMPOUND	RRF	RRF5.0	MIN RRF	%D	MAX %D
Vinyl Chloride-d3	0.429	0.429	0.010	-0.1	50.0
Chloroethane-d5	0.407	0.403	0.010	-0.9	50.0
1,1-Dichloroethene-d2	1.029	0.940	0.010	-8.6	50.0
2-Butanone-d5	0.021	0.026	0.010	22.7	50.0
Chloroform-d	0.719	0.651	0.010	-9.4	50.0
1,2-Dichloroethane-d4	0.234	0.215	0.010	-8.2	50.0
Benzene-d6	1.918	1.671	0.010	-12.9	50.0
1,2-Dichloropropane-d6	0.427	0.370	0.010	-13.3	50.0
Toluene-d8	1.905	1.654	0.010	-13.2	50.0
trans-1,3-Dichloropropene-d4	0.301	0.283	0.010	-6.3	50.0
2-Hexanone-d5	0.023	0.025	0.010	6.9	50.0
1,1,2,2-Tetrachloroethane-d2	0.171	0.142	0.010	-16.5	50.0
1,2-Dichlorobenzene-d4	1.089	0.893	0.010	-17.9	50.0

Report 1,4-Dioxane-d8 for Low/Medium VOA analysis only

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKEH

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-62263/10
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG10.D
 Level: (TRACE/LOW/MED) TRACE Date Received:
 % Moisture: not dec. Date Analyzed: 10/02/2013
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
 Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.028	J
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.16	J
156-60-5	trans-1,2-Dichloroethene	0.020	J
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKEH

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-62263/10
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG10.D
 Level: (TRACE/LOW/MED) TRACE Date Received:
 % Moisture: not dec. Date Analyzed: 10/02/2013
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
 Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.021	J
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKEH

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-62263/10

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG10.D

Level: (TRACE or LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	7.24	2.9	X J
02	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKEI

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-62264/4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKGA04.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/03/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.27	J
156-60-5	trans-1,2-Dichloroethene	0.0096	J
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKEI

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-62264/4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKGA04.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/03/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.50	U
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKEI

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: MB 200-62264/4

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKGA04.D

Level: (TRACE or LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/03/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	7.23	2.8	X J
02	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-6

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKGA06.D

Level: (TRACE/LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/03/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.50	U
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.50	U
156-60-5	trans-1,2-Dichloroethene	0.50	U
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.50	U
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.50	U
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-6
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKGA06.D
 Level: (TRACE/LOW/MED) TRACE Date Received:
 % Moisture: not dec. Date Analyzed: 10/03/2013
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
 Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.012	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VHBLK01

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: 200-18648-6

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKGA06.D

Level: (TRACE or LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/03/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	7.23	2.9	B X J
02	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

1A - FORM I VOA-1
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLKDX

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-62263/16
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG16.D
 Level: (TRACE/LOW/MED) TRACE Date Received:
 % Moisture: not dec. Date Analyzed: 10/02/2013
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
 Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	0.50	U
74-87-3	Chloromethane	0.50	U
75-01-4	Vinyl chloride	0.50	U
74-83-9	Bromomethane	0.50	U
75-00-3	Chloroethane	0.40	J
75-69-4	Trichlorofluoromethane	0.50	U
75-35-4	1,1-Dichloroethene	0.50	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	0.50	U
79-20-9	Methyl acetate	0.50	U
75-09-2	Methylene Chloride	0.29	J
156-60-5	trans-1,2-Dichloroethene	0.0045	J
1634-04-4	Methyl tert-butyl ether	0.50	U
75-34-3	1,1-Dichloroethane	0.50	U
156-59-2	cis-1,2-Dichloroethene	0.50	U
78-93-3	2-Butanone	5.0	U
74-97-5	Bromochloromethane	0.50	U
67-66-3	Chloroform	0.13	J
71-55-6	1,1,1-Trichloroethane	0.50	U
110-82-7	Cyclohexane	0.50	U
56-23-5	Carbon tetrachloride	0.037	J
71-43-2	Benzene	0.50	U
107-06-2	1,2-Dichloroethane	0.50	U

Report 1,4-Dioxane for Low-Medium VOA analysis only

1B - FORM I VOA-2
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VIBLKDX

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302
 Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648
 Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-62263/16
 Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG16.D
 Level: (TRACE/LOW/MED) TRACE Date Received:
 % Moisture: not dec. Date Analyzed: 10/02/2013
 GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0
 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)
 Purge Volume: 25.0 (mL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
79-01-6	Trichloroethene	0.50	U
108-87-2	Methylcyclohexane	0.50	U
78-87-5	1,2-Dichloropropane	0.50	U
75-27-4	Bromodichloromethane	0.50	U
10061-01-5	cis-1,3-Dichloropropene	0.50	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	0.016	J
10061-02-6	trans-1,3-Dichloropropene	0.50	U
79-00-5	1,1,2-Trichloroethane	0.50	U
127-18-4	Tetrachloroethene	0.50	U
591-78-6	2-Hexanone	5.0	U
124-48-1	Dibromochloromethane	0.50	U
106-93-4	1,2-Dibromoethane	0.50	U
108-90-7	Chlorobenzene	0.50	U
100-41-4	Ethylbenzene	0.50	U
95-47-6	o-Xylene	0.50	U
179601-23-1	m,p-Xylene	0.50	U
100-42-5	Styrene	0.50	U
75-25-2	Bromoform	0.50	U
98-82-8	Isopropylbenzene	0.50	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U
541-73-1	1,3-Dichlorobenzene	0.50	U
106-46-7	1,4-Dichlorobenzene	0.50	U
95-50-1	1,2-Dichlorobenzene	0.50	U
96-12-8	1,2-Dibromo-3-Chloropropane	0.50	U
120-82-1	1,2,4-Trichlorobenzene	0.50	U
87-61-6	1,2,3-Trichlorobenzene	0.50	U

1J - FORM I VOA-TIC
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VIBLKDX

Lab Name: TESTAMERICA BURLINGTON Contract: 8E-00302

Lab Code: STLV Case No.: CENTRAL Mod. Ref No.: SDG No.: 18648

Matrix: (SOIL/SED/WATER) Water Lab Sample ID: VIBLK 200-62263/16

Sample wt/vol: 25.0 (g/mL) mL Lab File ID: DKG16.D

Level: (TRACE or LOW/MED) TRACE Date Received:

% Moisture: not dec. Date Analyzed: 10/02/2013

GC Column: DB-624 ID: 0.20 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/kg) ug/L Purge Volume: 25.0 (mL)

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
01		Unknown	7.23	3.0	B X J
02	E966796 ¹	Total Alkanes	N/A		

¹EPA-designated Registry Number.

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Burlington

Job No.: 200-18648-1

SDG No.: 18648

Instrument ID: D.i

Analysis Batch Number: 62263

Lab Sample ID: IC 200-62263/3

Client Sample ID:

Date Analyzed: 10/02/13 17:07

Lab File ID: dkg03.d

GC Column: DB-624

ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methyl acetate	3.11	Analyte not identified by the data system	mtp	10/03/13 07:23
Bromodichloromethane	6.76	Analyte not identified by the data system	mtp	10/03/13 07:23
1,2-Dibromoethane	8.71	Analyte not identified by the data system	mtp	10/03/13 07:24
Bromoform	10.28	Analyte not identified by the data system	mtp	10/03/13 07:24
1,1,2,2-Tetrachloroethane	10.86	Analyte not identified by the data system	mtp	10/03/13 07:24
1,2,4-Trichlorobenzene	14.20	Analyte not identified by the data system	mtp	10/03/13 07:24
1,2,3-Trichlorobenzene	14.65	Analyte not identified by the data system	mtp	10/03/13 07:28

Lab Sample ID: IC 200-62263/4

Client Sample ID:

Date Analyzed: 10/02/13 17:31

Lab File ID: dkg04.d

GC Column: DB-624

ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromodichloromethane	6.76	Analyte not identified by the data system	mtp	10/03/13 07:25
1,2-Dibromoethane	8.71	Analyte not identified by the data system	mtp	10/03/13 07:25
Bromoform	10.28	Analyte not identified by the data system	mtp	10/03/13 07:25
1,1,2,2-Tetrachloroethane	10.86	Analyte not identified by the data system	mtp	10/03/13 07:25

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Burlington

Job No.: 200-18648-1

SDG No.: 18648

Instrument ID: D.i

Analysis Batch Number: 62263

Lab Sample ID: MB 200-62263/10

Client Sample ID:

Date Analyzed: 10/02/13 19:55

Lab File ID: dkg10.d

GC Column: DB-624 ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	2.05	Analyte not identified by the data system	archern	10/03/13 11:36
trans-1,2-Dichloroethene	3.48	Analyte not identified by the data system	archern	10/03/13 11:10
1,4-Dichlorobenzene	12.12	Not specified	wilburj	10/09/13 11:16

Lab Sample ID: 200-18648-1

Client Sample ID: CNMW03-W-35805

Date Analyzed: 10/02/13 20:18

Lab File ID: dkg11.d

GC Column: DB-624 ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	2.04	Analyte not identified by the data system	archern	10/03/13 11:38
trans-1,2-Dichloroethene	3.49	Analyte not identified by the data system	archern	10/03/13 11:17

Lab Sample ID: 200-18648-2

Client Sample ID: CNMW07-W-35809

Date Analyzed: 10/02/13 20:42

Lab File ID: dkg12.d

GC Column: DB-624 ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	2.03	Analyte not identified by the data system	archern	10/03/13 11:38
trans-1,2-Dichloroethene	3.48	Analyte not identified by the data system	archern	10/03/13 11:20

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Burlington

Job No.: 200-18648-1

SDG No.: 18648

Instrument ID: D.i

Analysis Batch Number: 62263

Lab Sample ID: 200-18648-3

Client Sample ID: CNMW10-W-35811

Date Analyzed: 10/02/13 21:06

Lab File ID: dkg13.d

GC Column: DB-624

ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	2.04	Analyte not identified by the data system	archern	10/03/13 11:39
trans-1,2-Dichloroethene	3.48	Analyte not identified by the data system	archern	10/03/13 11:26
Carbon tetrachloride	5.28	Analyte not identified by the data system	archern	10/03/13 11:26

Lab Sample ID: 200-18648-5

Client Sample ID: CNQCTB-W-35831

Date Analyzed: 10/02/13 21:30

Lab File ID: dkg14.d

GC Column: DB-624

ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	2.81	Analyte not identified by the data system	archern	10/03/13 11:58
trans-1,2-Dichloroethene	3.48	Analyte not identified by the data system	archern	10/03/13 11:59
Styrene	10.08	Analyte not identified by the data system	archern	10/03/13 11:59

Lab Sample ID: 200-18648-4

Client Sample ID: CNPMP7-W-35823

Date Analyzed: 10/02/13 21:54

Lab File ID: dkg15.d

GC Column: DB-624

ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	1.69	Analyte not identified by the data system	archern	10/03/13 12:01
Bromomethane	2.04	Analyte not identified by the data system	archern	10/03/13 12:01
trans-1,2-Dichloroethene	3.49	Analyte not identified by the data system	archern	10/03/13 12:02

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica BurlingtonJob No.: 200-18648-1SDG No.: 18648Instrument ID: D.iAnalysis Batch Number: 62263Lab Sample ID: VIBLK 200-62263/16

Client Sample ID: _____

Date Analyzed: 10/02/13 22:18Lab File ID: dkg16.dGC Column: DB-624ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
trans-1,2-Dichloroethene	3.49	Analyte not identified by the data system	archern	10/03/13 12:03
Carbon tetrachloride	5.28	Analyte not identified by the data system	archern	10/03/13 12:04
Toluene	7.67	Analyte not identified by the data system	archern	10/03/13 12:04

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Burlington

Job No.: 200-18648-1

SDG No.: 18648

Instrument ID: D.i

Analysis Batch Number: 62264

Lab Sample ID: MB 200-62264/4

Client Sample ID:

Date Analyzed: 10/03/13 09:25

Lab File ID: dkga04.d

GC Column: DB-624

ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
trans-1,2-Dichloroethene	3.49	Analyte not identified by the data system	archern	10/04/13 10:18

Lab Sample ID: 200-18648-4 DL

Client Sample ID: CNPMP7-W-35823 DL

Date Analyzed: 10/03/13 09:50

Lab File ID: dkga05.d

GC Column: DB-624

ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	2.04	Analyte not identified by the data system	archern	10/04/13 10:22
Toluene	7.67	Analyte not identified by the data system	archern	10/04/13 10:23

Lab Sample ID: 200-18648-6

Client Sample ID: VHBLK01

Date Analyzed: 10/03/13 10:13

Lab File ID: dkga06.d

GC Column: DB-624

ID: 0.2 (mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toluene	7.67	Analyte not identified by the data system	archern	10/04/13 10:26



Environmental Science Division

Argonne National Laboratory
9700 South Cass Avenue, Bldg. 203
Argonne, IL 60439-4843
www.anl.gov



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